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WORKING PLAN

OF THE

GAMÔN WORKING CIRCLE,

THARRAWADDY DIVISION, PEGU CIRCLE, LOWER BURMA.

SEASON 1887-88.

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CHAPTER I.

OBJECT AND DURATION OF WORKING PLAN AND EXTENT OF WORKING CIRCLE.

Object of plan.

1. The object of this working plan is to establish order in the working of the forest, to estimate and prescribe the annual yield so that it shall be sustained without overtaxing the capability of the forest, and at the same time to prescribe such works as will tend to its constant improvement.

Age of exploitability and duration of plan.

2. From data collected it is estimated that teak trees in this circle attain the lowest limits of girth measurement for girdling, namely, 6 feet girth in dry and 7 feet girth in moist forest at the average age of 165 years. The prescriptions of this plan apply only to a term of 35 years, representing the first period of a revolution of 175 years.

Extent of working circle.

3. The Gamôn working circle embraces so much of the forest which was declared a reserve in Notification No. 42 (Forests), dated Rangoon, the 16th April 1878, as is drained by the Myaung, Gamôn, and Taung streams, and their tributaries. It covers an area of 62,439 acres, or 97·5 square miles.

CHAPTER II.

GENERAL DESCRIPTION OF WORKING CIRCLE.

(*1*).—*Situation, Boundaries, and Configuration.*

Situation and boundaries.

4. The Gamôn working circle is distant from 16 to 20 miles in an easterly direction from Gyobingauk station on the Irrawaddy Valley State Railway. It is bounded on the north by the Bawbin working circle, on the east by the Pegu Yoma range, on the south by the Minhla working circle, and on the west by unreserved forests and cultivation.

General configuration.

5. The general configuration of the working circle is hilly, the hill ranges, of which the principal is the Pegu Yoma (highest point here about 2,000 feet), running in a general north and south direction. From these ranges numerous spurs running in a westerly direction are given off. The Gamôn chaung, which is the principal stream draining the forest, takes its rise in the south-east corner of the reserve, flows almost due north for some distance, then takes rather a sudden turn to the east, which direction it keeps till crossed by the western boundary of the reserve. The general direction of the streams is from east to west. Level ground occurs all along the western boundary of the working circle.

(2).—*Climate.*

Climate.

6. The climate is that common to the middle of Lower Burma. The average annual rainfall is unknown, but it is probably about 100 inches, that of the nearest meteorological station, Tharrawaddy, being 98 inches. Dew falls up to about the middle of February. The temperature varies between 55° and 105° Fahrenheit.

(3).—*Underlying Rock and Surface Soil.*

Underlying rock.

7. The underlying rock is generally a hard sandstone with sandy argillaceous shales and belongs to the miocene period. The sandstone is exposed on the ridges where the overlying shales are easily washed away, and the steeper slopes are often covered with big blocks of this sandstone. The shales vary from a hard slaty kind on the higher ground and steep slopes to a soft yellow or grey kind in the valleys. Laterite occurs in the south-west corner of the reserve and extends in a narrow strip all along the western boundary.

Surface soil.

8. As usual on the high steep slopes from the Yoma and the main ridges there is practically no surface soil, the loose friable shales are easily washed away, and fire prevents the formation of any vegetable soil. On the lower slopes in the valleys and on the level ground, except where laterite occurs, the soil is a good loam with varying proportions of sand and clay.

(4).—*General character of the Forest.*

Character.

9. Three types of forest are found in this working circle, namely, moist forest, dry forest, and indaing.

Moist forest occurs on the loamy soil in the low-lying valleys and on the level ground along the banks of streams, where in some cases it presents almost an evergreen character. In moist forest the growth of teak is very good as a rule. The undergrowth for the most part consists of kyathaung (*Bambusa polymorpha*) and tinwa (*Cephalostachyum pergracile*), waya (*Dendrocalamus longispathus*) and wapyu (*Gigantochloa albociliata*) occur occasionally. In the very moist parts wathabwot (*Dinochloa maclellandii*) and palms of sorts occur.

Dry forest covers about three-fourths of the total area of the working circle. All forest on the high ground is *dry*, on the exposed ridges and dry slopes *very dry*. It is noteworthy, however, that on the main Yoma ridge the forest invariably assumes a character nearer moist than dry. In the *very dry* forest teak is of very poor growth, the trees are stunted and crooked, and generally injured by fire; the undergrowth consists of stunted myinwa (*Dendrocalamus strictus*). On the lower hills and in the valleys where the soil is shaly the forest is dry, but the growth of teak is much better, and the accompanying bamboos myinwa and thaikwa (*Bambusa tulda*) attain larger dimensions than in the higher dry forest.

Indaing occurs in the south-west corner of the working circle and extends right along the western boundary; it in fact coincides with the laterite soil.

(5).—*Rate of growth of Teak.*

Mode of estimating.

10. The figures for the growth of teak have been arrived at by taking the average of results obtained by borings made with Pressler's growth gauge in green teak trees of different diameters from under 12 inches and over 30 inches, and the results obtained by counting the annual rings on stumps and logs found in the forest.

Pressler's gauge.

11. The borings with the Pressler's gauge give the following results as to the rate of growth of trees of different diameters :—

Diameter of trees.	Annual diameter increase.
Twelve inches and below	·180
From 12 to 18 inches	·171
From 18 to 24 inches	·130
From 24 to 30 inches	·118

From this the average ages of trees of the different diameter classes are as follows:—

Average age of trees 12 inches in diameter = 66 years.
Average age of trees 18 inches in diameter = 66 + 35 = 101 years.
Average age of trees 24 inches in diameter = 101 + 46 = 147 years.
Average age of trees 30 inches in diameter = 147 + 50 = 197 years.

The borings were made indiscriminately in moist and dry forest.

Countings of annual rings on stumps and logs.

12. The readings on stumps and logs give 187 years as the average age of trees 24 inches in diameter. Taking the average the results obtained with Pressler's gauge and those given by countings of rings on logs and stumps a teak tree in this circle is shown to take in round numbers 165 years to attain the diameter which has been fixed as the lowest limit for girdling in dry forest at 24 inches and in moist forest at 28 inches.

(*b*).—*Previous History.*

When declared a reserve.

13. The Gamôn working circle is portion of a tract of forest which was constituted a reserve by Notification No. 42 (Forests), dated Rangoon, the 16th April 1878.

Classification of historical facts.

14. The facts concerning the previous history of the working circle as far as can be gathered from old records may be classified as follows:—

(*a*) Girdling.
(*b*) Yield.
(*c*) Blasting operations.
(*d*) Regular and taungya teak plantations.
(*e*) Fire-tracing.

(*a*) *Girdling.*

Girdling operations.

15. During the 23 years from 1856-57 to 1878-79 19,935 trees are reported to have been girdled in the Gamôn and Taungchaung forests, and during the same period 33,550 tons of timber were extracted. These numbers include trees girdled in the unreserved forest outside the working circle. Since 1879 there has been no girdling inside the reserve.

(*b*) *Yield.*

Yield to date roughly estimated.

16. Of the 33,550 tons of teak timber extracted from the working circle during the 23 years from 1856-57 to 1878-79 about one-third may be roughly taken as coming from outside the working circle, therefore the approximate yield was 22,350 tons, or allowing 1¼ tons per tree, an annual yield of 970 trees for 23 years. From 1879-80 to 1887-88 8,679 logs have been extracted from the working circle, being a yield of 1,085 logs, or approximately 723 trees per annum. There are still many trees girdled in 1863 and 1874 standing in the forest.

(*c*) *Blasting operations.*

Clearing stream.

17. In 1865-66 a series of minor obstructions were removed in the Gamôn and Myaung streams.

(*d*) *Regular and Teak Taungya Plantations.*

There are no regular plantations in this working circle.

Taungya plantations.

18. Taungya plantations have not been made to any great extent in the working circle. They are confined entirely to the Myaungchaung block and are as follows:—

Year.	Area in acres.	Number of plants per acre.
1873	13	607
1874	21	544
1875	56	500
1883	28	360
1884	40	962
1885	79	1,886
1887	60	998
Total	297	760

The work has been carried out by Karens. Some sowings were made on the Ngapi-in chaung in 1864, but nothing further is on record regarding them. Notes on the present condition of these plantations will be found in the detailed description of compartments.

(e) Fire-tracing.

Fire-protection.

19. The taungya plantations have been protected from fire since 1874-75 with the following results. In 1880-81 the yas planted by the Karens of Nga E tè on the Timhmyôk chaung were burnt. In 1881-82 a block of 18½ acres planted in 1874 and 1875 and 2 acres of a ya planted in 1876 were burnt. In 1883-84 42 acres were burnt. There was no fire in 1884-85. In 1885-86 187 acres were burnt. There were no fires in 1886-87, and again in 1887-88 fire-protection was successful.

(7).—Sources of Revenue other than Teak.

20. Statement for last five years :—

Year.	Cutch.		Bamboos.		Shaw fibre.		Thatch grass.		Cigar leaves.		Honey, &c.	
	Licenses.	Revenue.	Number.	Revenue.	Viss.	Revenue.	Bundles.	Revenue.	Number.	Revenue.	Licenses.	Revenue.
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
1883-84 ...	...	...	25,200	63	775	8	75	2	760,000	40	...	...
1884-85 ...	9	360	32,000	80	1,700	17	100	1	180,000	9	...	...
1885-86 ...	6	390	20,000	50	1,200	12	...	...	72,000	12	9	45
1886-87 ...	...	...	2,000	5	...	...	...	...	...	...	...	...
1887-88 ...	3	360	18,600	84	...	...	...	...	150,000	8	...	...
Total ...	18	1,110	92,800	232	3,675	37	175	3	1,162,000	69	9	45

There is no demand at present for timber of reserved kinds other than teak or for unreserved timber except cutch. Bamboos are heavily worked all along the western part of the reserve, cart-roads penetrating into the reserve in all directions.

(8).—Causes of injury.

Fires, &c.

21. Fire is of course the principal cause of injury and without a complete system of fire-protection which would be decidedly costly there is no hope of keeping it out. Very little evidence of the destructive effects of storms was met with. Creepers and *epiphytic ficus* cause a good deal of injury to teak. There is no regular cattle-grazing inside the reserve; the cattle of bamboo-cutters do no damage.

(9).—Population and Rights; Bungalows.

Population and rights.

22. The Gamôn working circle contains two demarcated Karen areas covering an area of 24,459 acres, or 38·2 square miles. The population at the time of reserving the forest was roughly about 400. Since the disturbances, which commenced in 1886, the Karens have shifted their quarters so often that it is impossible now to give a correct figure for the present population.

The Karens have the right of cutting taungyas within their allotted areas and may collect forest produce with the exception of reserved timber for their own use.

Bungalows.

23. Before 1886 there was an inspection bungalow near the working circle at Waing, a Burman village on the Gamôn chaung close to the western boundary of the reserve; the bungalow was burnt by dacoits and the village is now deserted.

CHAPTER III.

Formation of Blocks and Compartments.

24. The working circle has been divided into blocks and compartments as follows :—

	Acres	Compartments
Myaung block	7,680	12
South Gamôn block	13,191	16
North Gamôn block	14,092	28
East Gamôn block	18,869	30
Taungchaung block	14,157	24

In the Karen areas the compartments have an average area of 679·4 acres, and over the remainder of the working circle the average area is about 550 acres. The boundaries of compartments follow paths, ridges, or streams, and are marked out by deep blazes on trees stamped with a C hammer. At all salient angles hardwood posts, generally teak, have been fixed up bearing iron tablets stamped with the numbers of the adjacent compartments.

CHAPTER IV.

Estimate of Growing Stock.

Classification of forest.

25. The forest in the working circle may be roughly classified as follows :—

	Acres.
Forest devoid of teak (ponzo, indaing, &c.)	17,860
Plantations	297
Teak forest	44,282
Total ...	62 439

Sample areas counted out.

26. In each compartment one or more sample areas with natural boundaries were selected, and on these areas all teak trees as well as all trees of other species above 1 foot in diameter were counted. The trees of the following species were specially noted,—pyinma, pyinkado, kanyin, ingyin, thiya, in, and cutch. The results of these countings are shown in an appendix. The average size of these sample areas is about 51·4 acres, the area counted out being about 12·5 per cent. of the whole area of the working circle. No doubt complete countings would have furnished more accurate and reliable results, but experience has proved this method would be too costly and impracticable. In the first place the labour supply is limited and, secondly, it is imperatively necessary that working plans should be framed for all the teak reserves as quickly as possible if the present market supply is to be maintained and the extraction of timber carried out with due regard to the future of the forests. The system here adopted has, moreover, been proved by practice to furnish fairly accurate results.

Estimate per compartment

27. The results obtained from these countings have been applied to estimate the growing stock in each compartment, allowance being made where necessary in case of compartments containing plantations or areas devoid of teak.

Estimated growing stock of working circle

28. The estimated growing stock in the working circle is as follows :—

Girdled or dead teak trees	1,870
Sound green teak trees above 2 feet diameter—	
2½ feet diameter and above	15,140
2 feet to 2½ feet diameter	23,800
Sound green teak trees below 2 feet diameter —	
1½ feet to 2 feet diameter	40,970
1 foot to 1½ feet diameter	74,800
Below 1 foot diameter, dominant	59,100
Below 1 foot diameter, suppressed	85,800
Teak trees in plantations	90,300
Unsound green teak trees—	
Above 1 foot diameter	12 130
Below 1 foot diameter	5,480

Trees other than teak above 1 foot diameter—

Pyinkado	118,860
Pyinma	10,350
Kanyin	580
Ingyin and thiya	22,450
In	81,500
Cutch	21,240
All others	618,600

CHAPTER V.

General Proposals for Working.

(*1*).—*Determination of Annual Yield.*

(*a*) *Teak Timber.*

System of working.

29. The only system on which the forest can at present be worked is that of "selection fellings."

Division into classes.

30. The actual growing stock of teak in the working circle is as follows :—

Trees above 2½ feet diameter	15,140
Trees from 2 feet to 2½ feet diameter	23,300
Trees from 1½ feet to 2 feet diameter	40,970
Trees from 1 foot to 1½ feet diameter	74,800
Trees below 1 foot diameter, dominant	59,100
Trees below 1 foot diameter, suppressed	85,800
Present stock of plantations roughly about 40 per cent. of original stock	90,300

This growing stock may be divided into the following classes :—

I class { Trees having 24 inches diameter in dry forest. / Trees having 26 inches diameter in moist forest.
II class { Trees between 18 and 24 inches diameter in dry forest. / Trees between 18 and 26 inches diameter in moist forest.
III class... Trees from 12 to 18 inches diameter.
IV class ... Trees below 12 inches diameter.

Estimate of annual yield.

31. About one-fourth of the teak-producing area in the working circle may be taken as covered with moist forest and three-fourths with dry forest. Of the 23,300 trees between 24 and 30 inches in diameter three-fourths, or 17,475, may be taken as growing in dry forest, and one-fourth, or 5,825, in moist forest. Of these 5,825 trees granted that one-third or 1,940 are between 24 and 26 inches in diameter, they cannot be included in the I class. The proportion 1,940 to 38,440, the total number of trees above 24 inches in diameter, is about $\frac{1}{20}$, hence it may be taken for granted that only $\frac{19}{20}$ of the trees over 24 inches in diameter will be I class trees. The classified growing stock will then be as follows :—

		Trees.
I class = $\frac{19}{20}$ 38,440	=	36,520
II class = 40,970 + $\frac{1}{20}$ =	38,440 =	42,890
III class		74,800
IV class	=	59,100 / 85,800 / 90,300

In the absence of any reliable data to go on let it be granted that trees of the different classes will survive to reach the exploitable age in the following proportions, namely :—

95 per cent. of the I class trees.
85 per cent. of the II class trees.
70 per cent. of the III class trees.
40 per cent. of the dominant trees below 1 foot diameter
10 per cent. of the suppressed trees below 1 foot diameter and stock in plantations.

The growing stock on which the estimate of the average annual yield must be based will then be as follows :—

	Trees.
I class	34,700
II class	36,450
III class	52,400
IV class	41,250

From the results of Pressler's gauge borings and countings of annual rings on stumps and logs it is estimated that on an average a teak tree takes—

70 years to attain a diameter of 12 inches;
40 years to increase from 12 to 18 inches;
55 years to increase from 18 to 24 inches in dry and 26 inches in moist forest;

that is, a tree attains the lowest limit of girth for girdling in 165 years. Allowing 10 years more for the tree to attain its maximum of utility, the average annual yield for the first two periods, or a total of 70 years, might be—

$$\frac{34{,}700 + 86{,}450 + \frac{15}{55}\ 52{,}400}{70} = 1{,}241 \text{ trees.}$$

Estimating, however, for the whole revolution of 175 years the yield would appear to be—

$$\frac{34{,}700 + 86{,}450 + 52{,}400 + 41{,}250}{175} = 942 \text{ trees.}$$

This large difference is due to the paucity of IV class trees and is more apparent than real as, owing to the working circle having been examined during the dry season after the fall of the leaves, many seedlings must have escaped notice. It is thought therefore that it will not be unsafe to fix the number of trees to be girdled annually in the Gamôn working circle at 1,000.

32. Plan of girdling—

Name of block.	No. of compartment.	Area in acres.	Estimated number of teak trees in 1888. Above 24 inches diameter.	18 inches to 24 inches diameter.	12 inches to 18 inches diameter.	Number of trees to be girdled during the sub-period.
1st sub-period.						
Myaung.	1	1,119	74	168	264	
	2	850	323	364	558	
	3	851	220	482	618	
	4	668	279	388	559	
North Gamôn.	43	340	...	8	24	
	44	496	257	190	380	
	45	476	...	14	126	
	46	482	17	...	85	
	47	537	244	296	899	
	48	563	509	630	1,288	
	49	518	422	562	1,101	
	50	413	23	37	47	
	51	535	66	150	750	
	52	692	847	1,113	2,275	
	53	412	48	106	141	
	54	658	6	2	30	
	55	386	193	268	445	
	57	647	46	76	148	
	58	902	472	736	1,084	
	59	283	328	388	446	
	60	592	283	416	1,641	
	61	463	71	57	81	
	62	783	13	19	19	
	63	700	...	...	...	
South Gamôn.	64	1,683	70	112	314	
	65	1,078	82	56	126	
	66	692	4	...	...	
	67	640	28	18	28	
	68	445	82	88	126	
	69	878	153	177	306	
	70	674	104	282	365	
	71	905	240	340	760	
	72	1,069	15	27	54	
	73	766	288	370	1,290	
	74	1,269	202	600	1,920	
	75	928	300	450	1,855	
	78	796	28	68	136	
	79	859	66	60	184	
	80	1,314	740	1,000	4,020	
	81	780	90	185	510	
Taung.	20	956	598	724	2,356	
	21	572	342	458	1,116	
	22	739	211	225	800	
	23	1,010	63	228	717	
	24	867	9	12	48	
Total	...	33,281	8,356	11,860	30,380	7,000
2nd sub-period, 1896-1902.						
Myaung.	5	438	84	168	424	
	6	401	28	99	218	
	7	636	125	90	252	
	8	486	...	...	...	
North Gamôn	56	458	106	114	110	
South Gamôn	76	436	462	294	497	
	77	740	1,489	842	921	
East Gamôn.	13	711	544	924	1,137	
	14	350	372	360	459	
	15	708	826	986	1,000	
	16	609	808	924	1,342	
	17	423	840	797	1,188	
	18	348	890	510	605	
Taung	15	364	446	290	609	
	16	449	182	212	708	
	17	657	469	394	507	
	18	559	255	120	518	
	19	718	306	354	1,792	
Total	...	9,441	8,182	7,428	12,287	7,000

Name of block.	No. of compartment.	Area in acres.	Estimated number of teak trees in 1888. Above 24 inches diameter.	18 inches to 24 inches diameter.	12 inches to 18 inches diameter.	Number of trees to be girdled in the sub-period.
3rd sub-period, 1903-1909.						
Myaung	9	728	1,380	887	1,351	
East Gamôn.	19	323	155	254	434	
	20	482	432	416	520	
	21	488	731	932	1,331	
	22	581	1,180	508	682	
	23	532	806	220	192	
	24	486	425	347	782	
	25	312	390	600	996	
	26	575	746	672	1,112	
Taung.	10	497	670	682	1,727	
	11	341	402	455	647	
	12	429	208	247	924	
	13	533	322	580	1,806	
	14	456	71	156	241	
Total	...	6,708	7,418	6,956	12,695	7,000
4th sub-period, 1910-1916.						
My-aung.	10	592	944	912	1,026	
	11	525	915	757	817	
East Gamôn.	27	427	180	288	690	
	28	421	351	456	845	
	29	440	346	296	438	
	30	434	300	200	477	
	31	281	343	357	697	
	32	413	1,220	1,020	1,150	
	33	327	799	540	370	
	34	406	779	633	673	
Taung	6	508	525	450	825	
	7	524	182	250	1,110	
	8	362	246	176	270	
	9	460	284	175	336	
Total	...	6,120	7,364	6,510	9,724	7,000
5th sub-period, 1917-1923.						
Myaung	12	391	693	788	632	
East Gamôn.	35	442	918	684	655	
	36	268	592	688	825	
	37	506	700	682	721	
	38	557	528	744	573	
	39	429	440	632	888	
	40	268	114	158	259	
	41	356	487	351	656	
	42	516	210	570	255	
Taung.	1	687	575	455	885	
	2	672	186	272	676	
	3	546	476	584	652	
	4	778	582	878	945	
	5	478	624	780	1,092	
Total	...	6,889	7,120	8,216	9,714	7,000

Summary.

1st sub-period	33,281	8,356	11,860	30,380	
2nd sub-period	9,441	8,182	7,428	12,287	
3rd sub-period	6,708	7,418	6,956	12,695	
4th sub-period	6,120	7,364	6,510	9,724	
5th sub-period	6,889	7,120	8,216	9,714	
Total ...	62,439	38,440	40,970	74,800	35,000

The prescribed number of trees may be girdled annually, or the girdling may be carried out over the whole sub-periodical area in the first or any other year of the sub-period.

Distribution of I and II class trees.

33. The following table shows the present distribution of I and II class trees over the sub-periodical areas :—

Sub-period.	Area.	I class.	II class.
First	33,281	7,527	10,435
Second	9,441	7,382	6,660
Third	6,708	6,704	6,225
Fourth	6,120	6,653	5,845
Fifth	6,889	6,434	7,285
Total ...	62,439	34,700	36,450

Quantity available for girdling during first period.

34. The following table shows the number of trees available for girdling during the first period :—

Sub-period.	Years of girdling.	Mean year.	Number available.	Number to be girdled.
First	1889—1895 ...	1892 ...	7,527 + $\frac{4}{11}$ 10,435 = 8,167 ...	7,000
Second	1896—1902 ...	1899 ...	7,382 + $\frac{1}{11}$ 6,660 = 8,504 ...	7,000
Third	1903—1909 ...	1906 ...	6,704 + $\frac{18}{85}$ 6,225 = 8,414 ...	7,000
Fourth	1910—1916 ...	1913 ...	6,653 + $\frac{25}{85}$ 5,845 = 8,378 ...	7,000
Fifth	1917—1923 ...	1920 ...	6,434 + $\frac{12}{85}$ 7,285 = 10,010 ...	7,000
			Total ... 43,978 ...	35,000

Prescribed girdling areas and number of trees not to be exceeded.

35. The annual yield being fixed at 1,000 trees, and the sub-periodical girdling areas defined, under no circumstances may the total number of trees to be girdled in the sub-period be exceeded, nor may the girdlings extend beyond the prescribed area even if the prescribed number of trees be not obtained within it.

Girth measurement in girdling.

36. In estimating the growing stock diameter measurements were used, but in girdling it is found more convenient to measure the girth of the trees. Therefore it is prescribed that no tree under 6 feet in girth at breast height, and in moist forest under 7 feet girth, shall be girdled.

General rules for girdling.

37. The following general rules should be observed in girdling :—

(i) The abovementioned limits of girth in moist and dry forest must be adhered to except in certain cases where, in the opinion of the girdling officer, a tree shows signs of premature decay and its removal would tend to the improvement of the forest as well as pay for its immediate extraction instead of being left to decay in the forest.

(ii) Sound trees though of marketable size, if standing in localities from which large timber can be easily removed, should not be girdled unless they show signs of cessation of growth.

(iii) Isolated trees should not be girdled unless with the object of clearing away cover to help the establishment of already existing seedlings.

(iv). Trees attacked by epiphytic ficus should be felled and not girdled.

Works of improvement at the time of girdling.

38. Works of improvement must always accompany the girdling operations. Every effort must be made to increase the proportion of teak in the forest and to help to improve the growth of the existing stock, creepers must be cut, and epiphytic ficus removed. Trees of other species which hinder the growth of teak must be girdled or felled if necessary; their removal also causes

blanks where teak seedlings may have a chance of establishing themselves. In the description of compartments the necessary works of improvement are prescribed.

Average number of teak trees per acre.

39. Taking the area of the working circle at 62,400 acres the following is the average of different sized teak trees per acre :—

Teak trees above 30 inches diameter	0·242
Teak trees between 24 inches and 30 inches diameter	0·873
Teek trees between 18 inches and 24 inches diameter	0·640
Teak trees between 12 inches and 18 inches diameter	1·198
Teak trees below 12 inches, dominant	0·945
Teak trees below 12 inches, suppressed	1·375
Teak trees in plantations	1·447
Total	6·150

No effort must be spared to increase this average, which is exceedingly poor.

Control book.

40. A control book as prescribed for previously formed working circles must be carefully kept up.

(*b*) *Timber other than Teak and Minor Produce.*

Reserved and unreserved timber.

41. There is at present no demand for timber other than teak from the working circle, cutch being the only species which yields any revenue. Bamboos are much worked all along the western portion of the working circle. The revenue from this source does not mount to a high figure. The revenue derived from minor produce, cigar leaves, thatch, &c., is insignificant.

(*2*).—*Money value of annual yield.*

42. The actual revenue and expenditure of the Gamôn working circle during the last five years has been has follows :—

	Rs.
Revenue	74,898
Expenditure	27,794

leaving a surplus of Rs. 47,104, or Rs. 9,420 per annum. The outturn of timber during the next 35 years may be expected to be—

	Tons.
35,000 trees yielding 52,500 logs at 45 cubic feet	47,250
900 girdled trees yielding 12.000 logs at 45 cubic feet	10,800
3,000 nathat trees yielding 3,000 logs at 25 cubic feet	1,500
Total	59,550

or an average of about 1,700 tons per annum.

The annual revenue and expenditure may be estimated as follows :—

Revenue.

	Rs.
1,700 tons of teak at Rs. 40 per ton	68,000
Other forest produce	800
Total	68,800

Expenditure.

	Rs.
1,000 logs extracted at Rs. 8-8-0 per log	16,150
Girdling and works of improvement	1,500
100 acres taungya plantations at Rs. 12 per acre	1,200
Fire-protection	200
Quota of B expenditure	4,000
Total	23,050

leaving a net annual surplus of, in round numbers, Rs. 45,000, or Rs. 0-11-6 per acre for the whole working circle.

(*3*).—*Protection and improvement.*

Fire-protection.

43. The Myaungchaung block is the only one in the working circle which contains plantations and consequently fire-protection is confined to this block. There is plenty of ground favourable for planting all along the western portion of the reserve and efforts

must be made to establish plantations here. The difficulty to contend with is the apathy of the Karens, who are mostly Christians and have no want of space for taungya-grounds in their allotted areas. The existing plantations should be frequently inspected and weeding carefully carried out. Under ordinary circumstances it would be sufficient if plantations were weeded for the first three years, then at the fifth, eighth, and twelfth years, but no hard-and-fast rule can be laid down, and weeding must be carried out whenever considered necessary, that is, till the young plants have fairly established themselves and can go ahead. Inducements ought to be offered to planters to make them give at least as much attention to raising teak seedlings as they give to their own crops of paddy, &c. The secret of success is to have a completely stocked plantation to start with. *Natural regeneration* is not good in any part of the working circle, and every opportunity should be taken of planting up blanks caused by the removal of trees, and also areas over which bamboo has flowered.

(*4*).—*Communications and Water-supply.*

Floating streams.

44. The Myaung stream is at present practically useless for floating timber, logs from this part of the forest being dragged over the watershed and floated down the Minhla stream. There is a rocky *kadin* near the source of the Myaung stream which must be removed lower down where the stream flows through the Karen area. It is much obstructed by snags and rubbish, the Karens taking no trouble to remove trees which happen to fall across the stream when they cut their taungyas. A few fines inflicted on offenders in this respect would have a salutary effect. After the Myaungchaung leaves the reserved area it is much obstructed and silted up, especially in the vicinity of the lately deserted village of Tanbingôn. This part of the stream must be deepened and cleared before it will be possible to float timber along it.

The main Gamôn stream is very clear of obstructions except just near its source, where the bed is very rocky. In places, in many of the feeders, obstructions occur which must be cleared away when girdling takes place near where they occur. The above remarks apply also to the Taungchaung in the Thayetchaung gale, a feeder of the Taung. There is a series of kyaukmyaungs which are said not to interfere with floating, but might with advantage be cleared. Obstructions in the streams are noted in the description of the compartments in which they occur.

Water-supply.

45. The lower reaches of the three main streams, the Myaung, the Gamôn, and the Taung, are dry by the middle of February, but water is to be had close up to the Yoma all through the dry season and springs are of pretty frequent occurrence.

Establishment.

46. The Gamôn working circle forms part of the Gamôn range and the establishment especially attached to it consists of two foresters. If the proposed girdling and works of improvement are to be efficiently carried out, two more foresters or guards will be necessary.

RANGOON:
The 28th August 1888.

H. A. HOGHTON,
Deputy Conservator of Forests,
Working Plans Division.

APPENDICES.

DESCRIPTION OF COMPARTMENTS IN MYAUNG BLOCK, GAMÔN WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
1	1119	Flat or very slightly undulating. *Soil.*—Laterite for the most part, becoming a clayey loam with laterite blocks on the surface, on the undulating ground, and near the streams.	The greater part of the forest is indaing, the teak is confined to the south-east portion of the compartment along the Ywaso-o chaung. Bamboos *myin*, *wapyu*, a little *kyathaung*, and *tin* only in the mixed forest.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet ditto ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot diameter dominant ... Ditto ditto ditto, suppressed... Pyinma trees 1 foot diameter and above ... Pyingado ditto ditto ... Ingyin ditto ditto ... Thitya ditto ditto ... Cutch ditto ditto ... All others ditto ditto ...	14 6 10 64 168 264 108 216 94 572 24 68 2 3,408	There is a cart-road from Sèywa to Myaung through the compartment in the south-east corner of which is the Ywaso-o camping-ground much frequented by bamboo-cutters.
2	850	Undulating, rising gradually to low hills in the north and east. *Soil.*—Pure laterite in the south-west; clayey loam with laterite on surface elsewhere.	Indaing on the laterite in the south-west of the compartment, the rest is good mixed forest with teak plentiful and of good growth; there are several plantations in the compartment, but natural regeneration is bad. Bamboos *kyathaung* and *tin* much exploited by neighbouring villagers.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... Ditto 2 to 2½ feet diameter ... Ditto 1½ to 2 feet ditto ... Ditto 1 to 1½ feet ditto ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... Pyingado ditto ditto ... All others ditto ditto ...	66 60 100 223 364 558 342 826 92 1,306 3,800	The plantations in the compartment are on the whole fairly well stocked, but one or two new ones on the Thitgale chaung are very poor, there being very few seedlings and the whole area covered with *tamasaing* grass. These should be cleared though it is doubtful if the operation would pay. Creeper-cutting is necessary in all the plantations.
3	851	Undulating with a gradual rise to the north and east, the ridge between the Myaung and Ywaso-o chaungs being fairly well marked; on the south bank of the Myaung	Forest generally moist, evergreen in places along the Myaung chaung and dry on the Myaung-Ywaso-o watershed. Teak is not plentiful and is badly distributed. Bamboos *kyathaung*, *thaik*, and *tin* with *myin* in flower on the Myaung-Ywaso-o watershed.	Girdled teak trees ... ... Unsound trees above 1 foot diameter ... ... Ditto below ditto ... ... Sound trees 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto	4 132 124 36 184 482	The plantations are on the whole good, some along the Myaung chaung being especially so. Creeper-cut-

		chaung the ground rises pretty abruptly. *Soil.*—A stiff clayey loam with big blocks of laterite on the surface.		Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot diameter, dominant ... Ditto ditto ditto, suppressed... Pyinma trees 1 foot diameter and above ... Pyingado ditto ditto ... All others ditto ditto ...	618 478 820 188 1,366 3,340	ting and weeding in in the younger plantations is of course necessary. The Myaung chaung is very narrow here and useless for floating timber, it must be widened; it is also much choked with *debris*.
4	668	Hilly, slopes nowhere steep. *Soil.*—A good sandy loam with sandstone blocks occurring on the surface in places.	Forest moist, about two-thirds of the compartment being old pônzo without teak. The teak is of splendid growth. Timber can only come out of this compartment by the Minhla stream as the Leinkunyôk chaung is unfit for floating. Bamboos *kyathaung*, a little *tin*, and a few clumps of *myin*.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Ingyin, Thitya ditto ditto ... ... All others ditto ditto	78 28 84 195 338 559 322 708 50 700 78 2,344	There are some splendid aule logs lying about the compartment and inducements should be offered to contractors to bring them out.
5	438	Hilly but no steep slopes ... *Soil.*—A rich sandy loam.	Forest moist and teak of excellent growth, but not very plentiful; a large portion of the compartment is under plantations. Bamboos *kyathaung* and *tin*.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... All others ditto ditto	32 24 32 52 168 424 367 254 7 376 1,855	The plantations are generally good. There is still plenty of ground fit for planting and efforts must be made to get it done.
6	401	Hilly, no steep slopes ... *Soil.*—Sandy loam.	Forest moist to dry on the ridge; to the north nearly the whole compartment is old and new pônzo with no teak at all. There is teak on the ridge, it is of good growth, but is by no means plentiful. Bamboos *kyathaung* and *tin*, *myin* on the ridge.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... All others ditto ditto	4 22 6 13 15 99 218 262 322 8 198 1,189	The Myaung chaung is very narrow and choked up with masses of *debris* caused by the Karens allowing trees felled by them when cutting their yas to fall into the stream. They must be made to understand that they are liable to punishment for obstructing floating streams.

DESCRIPTION OF COMPARTMENTS IN MYAUNG BLOCK, GAMÔN WORKING CIRCLE—continued.

Compartm No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
7	636	Similar to compartment 6 ...	Similar to compartment 6. There is more teak in the compartment but it is confined to the high ground.	Unsound teak above 1 foot diameter	38	See compartment 6.
				Ditto below ditto	28	
				Sound teak 2½ feet diameter and above	73	
				Ditto 2 to 2½ feet diameter	52	
				Ditto 1½ to 2 feet ditto	90	
				Ditto 1 to 1½ feet ditto	252	
				Ditto below 1 foot diameter, dominant ...	192	
				Ditto ditto ditto, suppressed ...	595	
				Pyinma trees 1 foot diameter and above ...	10	
				Pyingado ditto ditto	728	
				Ingyin ditto ditto	3	
				Thitya ditto ditto	3	
				All others ditto ditto	4,168	
8	436	Similar to compartment 6 ...	The compartment is devoid of teak, being all covered with pônzo; a few young trees were seen here and there.	Pyinma trees 1 foot diameter and above	20	
				Pyingado ditto ditto	300	
				All others ditto ditto	2,270	
9	723	Hilly. Slopes fairly steep at times but never unworkable. *Soil.*—Sandy loam, inclined to shales on the steeper slopes; sandstone blocks on the surface.	Forest moist along the stream, dry on the ridges and higher slopes. Bamboos *kyathaung* and *waya* in the moist, *myin* in the dry forest. The compartment is exceedingly rich in teak, most of the trees are, however, big and fit to girdle. There are numerous girdled trees.	Girdled teak trees	179	Natural regeneration is not good and must be helped; creeper-cutting is also necessary. The Myaung chaung must be rendered fit for floating.
				Unsound teak above 1 foot diameter	464	
				Ditto below ditto	104	
				Sound teak 2½ feet diameter and above	655	
				Ditto 2 to 2½ feet diameter	725	
				Ditto 1½ to 2 feet ditto	887	
				Ditto 1 to 1½ feet ditto	1,351	
				Ditto below 1 foot ditto, dominant ...	1,142	
				Ditto ditto ditto, suppressed ...	1,902	
				Pyinma trees 1 foot diameter and above	102	
				Pyingado ditto ditto	2,198	
				Kanyin ditto ditto	52	
				Ingyin ditto ditto	11	
				Thitya ditto ditto	5	
				In ditto ditto	11	
				All others ditto ditto	8,009	

10	592	Similar to compartment 9 ...	Forest moist near the stream and in sheltered ravines, dry elsewhere. Bamboo *kyathaung* and a little *tin* in the moist, *myin* in the dry forest. Teak very fine and plentiful, young trees scarce.	Girdled teak trees	91	Timber is being worked out of this compartment; it is dragged to the source of the Ye-u chaung and then over the Minhla-Myaung watershed into the Myatswe chaung, a feeder of the North Minhla chaung. This way of working is tedious and costly and would be avoided if the Myaung chaung were cleared.
				Unsound teak above 1 foot diameter	133	
				Ditto below ditto	43	
				Sound teak 2½ feet diameter and above	383	
				Ditto 2 to 2½ feet ditto	561	
				Ditto 1½ to 2 feet ditto	912	
				Ditto 1 to 1½ feet ditto	1,026	
				Ditto below 1 foot diameter, dominant ...	837	
				Ditto ditto ditto, suppressed ...	1,247	
				Pyinma trees 1 foot diameter and above	156	
				Pyinkado ditto ditto	1,587	
				Ingyin, Thitya ditto ditto	27	
				All others ditto ditto	5,788	
11	525	Hilly. The slopes from the Gewbindaung are very steep in places, but timber can be worked along the ridge. There are no unworkable slopes elsewhere. *Soil.*—Sandy loam near the streams, shales on the hills, slaty at times.	Forest dry. Bamboos principally *myin*, a little *kyathaung* and *tin*. Teak good, the trees are often burnt at the roots and young growth is deficient.	Girdled teak trees	150	Creepers to be cut and natural regeneration helped.
				Unsound teak above 1 foot diameter	202	
				Ditto below ditto	97	
				Sound teak 2½ feet diameter and above	390	
				Ditto 2 to 2½ feet diameter	525	
				Ditto 1½ to 2 feet ditto	757	
				Ditto 1 to 1½ feet ditto	817	
				Ditto below 1 foot ditto, dominant ...	1,170	
				Ditto ditto ditto, suppressed...	825	
				Pyinma trees 1 foot diameter and above	105	
				Pyinkado ditto ditto	1,282	
				All others ditto ditto	5,032	
12	391	Hilly. The ridge between the two branches of the Shabingyi chaung is very narrow, being in places a mere wall of sandstone, elsewhere the slopes are not steep. *Soil.*—Similar to compartment 11.	Similar to compartment 11	Girdled teak trees	128	See compartment 11.
				Unsound teak above 1 foot diameter	516	
				Ditto below ditto	95	
				Sound teak 2½ feet diameter and above	217	
				Ditto 2 to 2½ feet diameter	476	
				Ditto 1½ to 2 feet ditto	788	
				Ditto 1 to 1½ feet ditto	632	
				Ditto below 1 foot ditto, dominant ...	1,224	
				Ditto ditto ditto, suppressed ...	1,339	
				Pyinma trees 1 foot diameter and above	122	
				Pyinkado ditto ditto	1,101	
				Ingyin, Thitya ditto ditto	142	
				Cutch ditto ditto	278	
				All others ditto ditto	5,154	

DESCRIPTION OF COMPARTMENTS IN EAST GAMÔN BLOCK, GAMÔN WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stocks.		Remarks.
				Description of trees.	Number.	
13	711	Very hilly. The slopes from the Gamôn to the Yoma are generally very steep. To the west they are much easier. *Soil.*—Principally grey shales. Sandy loam in places.	Forest generally dry. There is a long strip of very moist forest, containing almost no teak which, runs parallel to the Gamôn chaung about half-way up the slopes to the Seindaung ridge on the west. Above this the forest becomes dry again. Bamboos principally *myin* in flower, *kyathaung* and *tin* in the moist strip. Teak of stunted growth in the dry forest, and trees much injured by fire.	Unsound teak above 1 foot diameter	252	The sources of the Gamôn and its feeders are very rocky and obstructed, they should be cleared.
				Ditto below ditto	79	
				Sound teak 2½ feet diameter and above	197	
				Ditto 2 to 2½ feet diameter	347	
				Ditto 1½ to 2 feet ditto	924	
				Ditto 1 to 1½ feet ditto	1,157	
				Ditto below 1 foot ditto, dominant ..	932	
				Ditto ditto ditto, suppressed...	1,279	
				Pyinma trees 1 foot diameter and above	126	
				Ingyin } Thitya } ditto ditto	244	
				Cutch ditto ditto	292	
				All others ditto ditto	8.160	
14	350	Low hills and no steep slopes. *Soil.*—Good loam near the stream to shales on the hill and slopes.	Forest mostly dry, moist along the stream and on the lower portions of the Myaung-Gamôn watershed. Bamboos principally *myin* in the moist forest, *kyathaung* with a little *tin*, *talagu*, and *waya*. Teak well grown, but young growth very deficient.	Girdled teak trees	12	See compartment 11.
				Unsound teak above 1 foot diameter	69	
				Ditto below ditto	41	
				Sound teak 2½ feet diameter and above	98	
				Ditto 2 to 2½ feet diameter	274	
				Ditto 1½ to 2 feet ditto	360	
				Ditto 1 to 1½ feet ditto	459	
				Ditto below 1 foot ditto, dominant ...	393	
				Ditto ditto ditto, suppressed ...	549	
				Pyinma trees 1 foot diameter and above	156	
				Pyinkado ditto ditto	779	
				All others ditto ditto	5,496	
15	708	Hilly. The slopes from the Yoma and from the ridges running down through the compartment are very steep, those to the south being as a rule steeper than those to the north. Timber can be worked along the ridges. *Soil.*—Shales everywhere, except just along the main stream where it is loamy.	Forest from fairly moist along the main stream to very dry on the ridges and high hills. The south slopes are generally drier than the north. Bamboos stunted, scanty; *myin* on the very dry parts, elsewhere *myin* in flower; *kyathaung* and *tin* a little near the stream. Teak plentiful, but trees much injured by fire.	Unsound teak above 1 foot diameter	228	See compartment 11.
				Ditto below ditto	78	
				Sound teak 2½ feet diameter and above	312	
				Ditto 2 to 2½ feet diameter	514	
				Ditto 1½ to 2 feet ditto	936	
				Ditto 1 to 1½ feet ditto	1,000	
				Ditto below 1 foot ditto, dominant ...	1,196	
				Ditto ditto ditto, suppressed ...	795	
				Pyinma trees 1 foot diameter and above	80	
				Pyinkado ditto ditto	1,409	
				Ingyin } Thitya } ditto ditto	317	
				All others ditto ditto	1,172	

(14)

16	609	Similar to compartment 15. Slopes not so steep.	Similar to compartment 15	Girdled teak trees	5	See compartment 11.
				Unsound teak above 1 foot diameter	289	
				Ditto below ditto	66	
				Sound teak 2½ feet diameter and above	242	
				Ditto 2 to 2½ feet diameter	566	
				Ditto 1½ to 2 feet ditto	924	
				Ditto 1 to 1½ feet ditto	1,342	
				Ditto below 1 foot ditto, dominant ...	1,111	
				Ditto ditto ditto, suppressed ...	1,337	
				Pyinma trees 1 foot diameter and above	324	
				Pyinkado trees 1 foot diameter and above ...	1,705	
				Ingyin ditto ditto	253	
				Thitya ditto ditto	154	
				All others ditto ditto	7,639	
17	423	Hilly. Slopes from the Gamôn chaung to the east fairly steep, elsewhere easy. *Soil.*—Principally sandy loam, shales on the slopes and ridge to the east.	Moist near the stream, dry on sheltered slopes and portions of the Myaung-Gamôn watershed, very dry on the ridge to the east. Bamboos, &c., similar to compartment 16.	Unsound teak above 1 foot diameter	220	See compartment 11.
				Ditto below ditto	122	
				Sound teak 2½ feet diameter and above	252	
				Ditto 2 to 2½ feet diameter	588	
				Ditto 1½ to 2 feet ditto	797	
				Ditto 1 to 1½ feet ditto	1,188	
				Ditto below 1 foot ditto, dominant ...	610	
				Ditto ditto ditto, suppressed ...	1,485	
				Pyinma trees 1 foot diameter and above .. .	390	
				Pyinkado ditto ditto	2,139	
				All others ditto ditto	5,571	
18	348	Very hilly, some of the slopes to the Kyetpyu chaung are precipitous, but timber can come out along most of the spurs. The chaung is very rocky. *Soil.*—Sandy loam to shales; sand-stones on the surface in many places.	Forest from moist to dry, moist forest predominating. Bamboos principally *kyathaung* and *myin*. Teak of very good growth.	Girdled teak trees	. 10	See compartment 11. The obstructions in the Kyetpyu chaung must be removed.
				Unsound teak above 1 foot diameter	190	
				Ditto below ditto	50	
				Sound teak 2½ feet diameter and above	485	
				Ditto 2 to 2½ feet diameter	405	
				Ditto 1½ to 2 feet ditto	510	
				Ditto 1 to 1½ feet ditto	605	
				Ditto below 1 foot ditto. dominant ...	505	
				Ditto ditto ditto, suppressed...	875	
				Pyinma trees 1 foot diameter and above	95	
				Pyinkado ditto ditto	1.405	
				Ingyin ditto ditto	5	
				Thitya ditto ditto	15	
				All others ditto ditto	3,320	
19	323	Hilly. Slopes to the east very steep. *Soil.*—Similar to 18.	Forest moist near the streams to very dry on the hill-tops and ridges. Bamboos *kyathaung* and *myin*, a little *thaik* and *tin*. Teak good, except in the very dry parts.	Girdled teak trees	32	See compartment 11.
				Unsound teak above 1 foot diameter	41	
				Ditto below ditto	41	
				Sound teak 2½ feet diameter and above	57	
				Ditto 2 to 2½ feet diameter	98	

DESCRIPTION OF COMPARTMENTS IN EAST GAMÔN BLOCK, GAMÔN WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil	General character of forest.	Estamate of growing stock.		Remarks.
				Description of trees.	Number.	
				Sound teak 1½ to 2 feet diameter	254	
				Ditto 1 to 1½ feet ditto	434	
				Ditto below 1 foot ditto, dominant ...	451	
				Ditto ditto ditto, suppressed ...	196	
				Pyinma trees 1 foot diameter and above	106	
				Pyinkado ditto ditto	672	
				Ingyin ditto ditto	74	
				Thitya ditto ditto	24	
				All others ditto ditto	3,280	
20	482	Similar to 19. Slopes not so steep.	Similar to 19. Teak of better growth	Girdled teak trees	32	See compartment 11.
				Unsound teak above 1 foot diameter	92	
				Ditto below ditto	36	
				Sound teak 2½ feet diameter and above	188	
				Ditto 2 to 2½ feet diameter	244	
				Ditto 1½ to 2 feet ditto	416	
				Ditto 1 to 1½ feet ditto	520	
				Ditto below 1 foot ditto, dominant ...	580	
				Ditto ditto ditto, suppressed ...	276	
				Pyinma trees 1 foot diameter and above	112	
				Pyinkado ditto ditto	1,220	
				Ingyin } Thitya } ditto ditto	40	
				All others ditto ditto	4,856	
21	488	A high ridge runs north and south through the compartment; the slopes are very steep at times, but timber can come out. *Soil.*—Loam near the streams, shales on the ridge and slopes.	Forest moist near the streams, very dry on the ridge. Bamboos *kyathaung* in the moist and *myin* in flower in the dry forest; many of the hills covered with a dense growth of *pyaungsa* grass. Teak in the dry forest much injured by fire.	Girdled teak trees	17	See compartment 11.
				Unsound teak above 1 foot diameter	232	
				Ditto below ditto	180	
				Sound teak 2½ feet diameter and above	236	
				Ditto 2 to 2½ feet diameter	495	
				Ditto 1½ to 2 feet ditto	932	
				Ditto 1 to 1½ feet ditto	1,331	
				Ditto below 1 foot ditto, dominant ...	701	
				Ditto ditto ditto, suppressed ...	1,281	
				Pyinma trees 1 foot diameter and above	134	
				Pyinkado ditto ditto	1,545	

				Ingyin } trees 1 foot diameter and above	35	
				Thitya } ditto	296	
				Cutch ditto	58	
				All others ditto	4,108	
22	531	Hilly. Slopes not steep ... *Soil.*—For the most part rich sandy loam, soft shales on the higher slopes.	Moist throughout the compartment except on the ridge between the Kayu and Kyauk chaungs and on the Myaung-Gamôn watershed where it is dry, almost evergreen along the Kayu chaung. Teak of splendid growth but young stock very deficient. Bamboos mostly *kyathaung*, a little *myin* in the dry forest.	Unsound teak above 1 foot diameter	220	See compartment 11.
				Ditto below ditto	52	Rocks in the Kayu chaung to be cleared.
				Sound teak 2½ feet diameter and above	712	
				Ditto 2 to 2½ feet diameter	472	68
				Ditto 1½ to 2 feet ditto	508	
				Ditto 1 to 1½ feet ditto	632	
				Ditto below 1 foot ditto, dominant ...	572	
				Ditto ditto ditto, suppressed ...	932	
				Pyinma trees above 1 foot diameter	17	
				Pyingado ditto ditto	2,576	
				All others ditto ditto	4,848	
23	532	Similar to 22	Forest evergreen along the streams and on the lower slopes, moist everywhere except on the highest and exposed portions of the ridges running through the compartment. Teak scarce, but what there is is of very fine growth. Bamboos *kyathaung*, a little *thaik* and *tin*, and *myin* on the ridge. Along the streams canes and *wathabwot* occur.	Unsound teak above 1 foot diameter	76	
				Ditto, below ditto	28	
				Sound teak 2½ feet diameter and above	162	
				Ditto 2 to 2½ feet diameter	144	
				Ditto 1½ to 2 feet ditto	220	
				Ditto 1 to 1½ feet ditto	192	
				Ditto below 1 foot ditto, dominant ...	854	
				Ditto ditto ditto, suppressed ...	507	
				Pyinma trees 1 foot diameter and above	88	
				Pyingado ditto ditto	892	
				All others ditto ditto	4,000	
24	486	Similar to compartment 23 ... *Soil.*—More shaly.	Forest moist near the streams, dry on the main ridge through the compartment. Bamboos mostly *myin*, a good deal of *thaik* near the streams, a little *kyathaung* and *tin*. Teak good.	Girdled teak trees	29	See compartment 11.
				Unsound teak above 1 foot diameter	99	
				Ditto below ditto	19	
				Sound teak 2½ feet diameter and above	148	
				Ditto 2 to 2½ feet diameter	277	
				Ditto 1½ to 2 feet ditto	347	
				Ditto 1 to 1½ feet ditto	782	
				Ditto below 1 foot ditto, dominant ...	821	
				Ditto ditto ditto, suppressed ...	504	
				Pyinma trees 1 foot diameter and above	198	
				Pyingado ditto ditto	1,811	
				All others ditto ditto	6,574	
25	312	Slopes in the east part of the compartment steep, elsewhere easy. *Soil.*—Loam near the streams, very loose shales on the steep slopes.	Inclined to moist near the stream, but as a rule dry and very dry on the exposed ridges. Bamboos principally *myin*, a little *tin* and *kyathaung*. Teak plentiful and good.	Girdled teak trees	18	
				Unsound teak above 1 foot diameter	192	
				Ditto below ditto	84	
				Sound teak 2½ feet diameter and above	132	
				Ditto 2 to 2½ feet diameter	258	

DESCRIPTION OF COMPARTMENTS IN MYAUNG BLOCK, GAMÔN WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
				Sound teak 1½ to 2 feet diameter	600	
				Ditto 1 to 1½ feet ditto	996	
				Ditto below 1 foot diameter, dominant ..	852	
				Ditto ditto ditto, suppressed ...	750	
				Pyinma trees 1 foot diameter and above ...	114	
				Pyingado ditto ditto	1,290	
				Ingyin } ditto ditto	108	
				Thitya } ditto ditto	270	
				All others ditto ditto ...	6,360	
26	575	Slopes from Yoma at the sources of the Thitthu and Gyithangè chaungs very steep, elsewhere easy. *Soil.*—Similar to 25.	Similar to compartment 25	Girdled teak trees	24	
				Unsound teak above 1 foot diameter	273	
				Ditto below ditto	132	
				Sound teak 2½ feet diameter and above ...	365	
				Ditto 2 to 2½ feet diameter	881	
				Ditto 1½ to 2 feet ditto	672	
				Ditto 1 to 1½ feet ditto	1,112	
				Ditto, below 1 foot ditto, dominant	988	
				Ditto ditto ditto, suppressed	589	
				Pyinma trees 1 foot diameter and above ...	431	
				Pyingado ditto ditto ...	2,148	
				Ingyin } ditto ditto ...	315	
				Thitya } ditto ditto ...	282	
				All others ditto ditto ...	9,150	
27	427	Slopes nowhere steep ... *Soil.*—Generally loamy with sandstone blocks on the surface.	Forest dry on the ridge to the west and the high slopes, moist along the stream. *Bamboos myin* in the dry, *thaik*, *tin* and *kyathaung* in the moist forest. Teak fairly plentiful.	Girdled teak trees	20	See compartment 11.
				Unsound teak above 1 foot diameter	154	
				Ditto below ditto	107	
				Sound teak 2½ feet diameter and above	87	
				Ditto 2 to 2½ feet diameter	93	
				Ditto 1½ to 2 feet ditto	288	
				Ditto 1 to 1½ feet ditto	690	
				Ditto 1 foot diameter, dominant	623	
				Ditto ditto ditto, suppressed	670	
				Pyinma trees 1 foot diameter and above ...	120	
				Pyingado ditto ditto ...	897	
				All others ditto ditto ...	5,000	

28	421	Similar to 27	Similar to 27	Girdled teak trees	24	
				Unsound teak above 1 foot diameter	161	
				Ditto below ditto	152	
				Sound teak 2½ feet diameter and above	133	
				Ditto 2 to 2½ feet diameter	218	
				Ditto 1½ to 2 feet ditto	456	
				Ditto 1 to 1½ feet ditto	845	
				Ditto below 1 foot ditto, dominant	570	
				Ditto ditto ditto, suppressed	950	
				Pyinma trees 1 foot diameter and above ...	76	
				Pyingado ditto ditto ...	1,035	
				Ingyin, Thitya ditto ditto ...	579	
				All others ditto ditto ...	5,500	
29	446	No high hills or steep slopes... *Soil.*—A rich loam.	Forest very moist, evergreen near the chaungs. Bamboos *kyathaung* principally along the streams, *wathabwot* and canes. Teak not very plentiful, but what there is is of splendid growth.	Girdled teak trees	51	
				Unsound teak above 1 foot diameter	103	2
				Ditto below ditto	25	
				Sound teak 2½ feet diameter and above	64	
				Ditto 2 to 2½ feet diameter	288	
				Ditto 1½ to 2 feet ditto	296	
				Ditto 1 to 1½ feet ditto	438	
				Ditto below 1 foot ditto dominant	451	
				Ditto ditto ditto suppressed	825	
				Pyinma trees 1 foot diameter and above ...	12	
				Pyingado ditto ditto ...	748	
				Kanyin ditto ditto ...	142	
				All others ditto ditto ...	5,400	
30	434	The immediate slopes from the ridges to the south-west and north-west of the compartment are fairly steep, but nowhere else. *Soil.*—Loam, shales on the steep slopes, with sandstones on surface.	Forest moist except on the ridges, where it is dry. Bamboos very abundant, principally *kyathaung*, a little *thaik* and *tin*, *myin* on the ridges. Teak good.	Girdled teak trees	28	See compartment 11.
				Unsound teak above 1 foot diameter	161	
				Ditto below ditto	30	
				Sound teak 2½ feet diameter and above	176	
				Ditto 2 to 2½ feet diameter	124	
				Ditto 1½ to 2 feet ditto	200	
				Ditto 1 to 1½ feet ditto	477	
				witto below 1 foot ditto dominant	370	
				Ditto ditto ditto suppressed	894	
				Pyinma trees 1 foot diameter and above ...	108	
				Pyingado ditto ditto ...	688	
				All others ditto ditto ...	6,800	
31	281	Slopes from the main ridge through the compartment fairly steep. *Soil.*—Mostly shales, sandstones on surface.	Forest dry all through, very dry on the ridge. Bamboos flowered *myin*, a narrow fringe of *kyathaung* by the main stream. Teak often burnt at the roots.	Unsound teak above 1 foot diameter	110	See compartment 11.
				Ditto below ditto	102	
				Sound teak 2½ feet diameter and above	59	
				Ditto 2 to 2½ feet diameter	284	
				Ditto 1½ to 2 feet ditto	857	

DESCRIPTION OF COMPARTMENT IN MYAUNG BLOCK, GAMÔN WORKING CIRCLE—concluded.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock. Description of trees.	Number.	Remarks.
				Sound teak 1 to 1½ feet diameter	697	
				Ditto below 1 foot ditto, dominant ...	442	
				Ditto ditto ditto, suppressed ...	561	
				Pyinma trees 1 foot diamater and above	17	
				Pyingado ditto ditto	790	
				Ingyin } ditto ditto	578	
				Thitya } ditto ditto	1,666	
				All others ditto ditto	5,000	
32	413	Immediate slopes from the Yoma steep, elsewhere easy and workable. *Soil.*—Sandy loam to slaty shales on the steep slopes.	Similar to 31	Girdled teak trees	30	
				Unsound teak above 1 foot diameter	80	
				Ditto below ditto	50	
				Sound teak 2½ feet diameter and above	400	
				Ditto 2 to 2½ feet diameter	820	
				Ditto 1½ to 2 feet ditto	1,020	
				Ditto 1 to 1½ feet ditto	1,150	
				Ditto below 1 foot ditto, dominant ...	770	
				Ditto ditto ditto, suppressed ...	960	
				Pyinma trees 1 foot diameter and above	50	
				Pyingado ditto ditto	1,840	
				Ingyin } ditto ditto	170	
				Thitya } ditto ditto	220	
				All others ditto ditto	6,500	
33	327	Similar to 32	Similar to 32	Girdled teak trees	6	See compartment 11.
				Unsound teak above 1 foot diameter	110	There is a *kyauk myaung*
				Ditto below ditto	45	in the Sèlwè chaung
				Sound teak 2½ feet diameter and above	533	just below counting 1
				Ditto 2 to 2½ feet diameter	266	which must be cleared.
				Ditto 1½ to 2 feet ditto	540	
				Ditto 1 to 1½ feet ditto	870	
				Ditto below 1 foot ditto, dominant ...	143	
				Ditto ditto ditto, suppressed ...	390	
				Pyinma trees 1 foot diameter and above	58	
				Pyingado ditto ditto	637	
				All others ditto ditto	5,300	

34	406	No very steep slopes ... *Soil.*—Sandy loam to shales.	Forest moist near the streams, dry on the high ground. Bamboos *kyathaung* and flowered *myin*. Teak good.	Girdled teak trees	72	See compartment 11.
				Unsound teak above 1 foot diameter	145	
				Ditto below ditto	92	
				Sound teak 2½ feet diameter and above	284	
				Ditto 2 to 2½ feet diameter	495	
				Ditto 1½ to 2 feet ditto	633	
				Ditto 1 to 1½ feet ditto	673	
				Ditto below 1 foot ditto, dominant ...	673	
				Ditto ditto ditto, suppressed ...	844	
				Pyinmana trees 1 foot diameter and above ..	99	
				Pyinkado ditto ditto	1,729	
				Ingyin ditto ditto	178	
				Thitya ditto ditto	852	
				All others ditto ditto	6,500	
35	442	There are two high ridges running through the compartment north and south. The slopes from these ridges are as a rule steep, as are those from the Yoma. *Soil.*—Mostly shales.	Inclined to moist near the streams, everywhere else dry. Bamboos mostly flowered *myin*, a little *kyathaung*. Teak good; very few young trees.	Unsound teak above 1 foot diameter	216	See compartment 11.
				Ditto below ditto	43	The sources of the China chaung and the Pathabya chaung are very rocky and unfit for floating, they must be cleared.
				Sound teak 2½ feet diameter and above	381	
				Ditto 2 to 2½ feet diameter	532	
				Ditto 1½ to 2 feet ditto	684	
				Ditto 1 to 1½ feet ditto	655	
				Ditto below 1 foot ditto, dominant ...	309	
				Ditto ditto ditto, suppreseed ...	692	
				Pyinmana trees 1 foot diameter and above ...	21	
				Pyinkado ditto ditto	1,174	
				Ingyin Thitya ditto ditto	21	
				All others ditto ditto	6,000	
36	268	Similar to 35	Similar to 35	Girdled teak trees	16	See compartment 11.
				Unsound teak above 1 foot diameter	94	The feeder of China chaung forming the west boundary of the compartment must be cleared of rocky obstructions.
				Ditto below ditto	68	
				Sound teak 2½ feet diameter and above	197	
				Ditto 2 to 2½ feet diameter	395	
				Ditto 1½ to 2 feet ditto	688	
				Ditto 1 to 1½ feet ditto	825	
				Ditto below 1 foot ditto, dominant ...	541	
				Ditto ditto ditto, suppressed ...	722	
				Pyinma trees 1 foot diameter and above	43	
				Pyinkado ditto ditto	1,186	
				Ingyin ditto ditto	154	
				Thitya ditto ditto	224	
				All others ditto ditto	6,000	
37	506	Slopes in the north-east part of the compartment steep, elsewhere easy. *Soil.*—Mostly shales.	Forest dry, very dry on the exposed ridges. Bamboos flowered *myin*, a little stunted *kyathaung* an d b near the streams. Teak plentiful, but much injured y fire.	Unsound teak above 1 foot diameter	183	See compartment 11.
				Ditto below ditto	51	
				Sound teak 2½ feet diameter and above	349	

DESCRIPTION OF COMPARTMENTS IN EAST GAMÔN BLOCK, GAMÔN WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock. Description of trees.	Number.	Remarks.
				Sound teak 2 to 2½ feet diameter	851	
				Ditto 1½ to 2 feet ditto	682	
				Ditto 1 to 1½ feet ditto	721	
				Ditto below 1 foot ditto, dominant ...	563	
				Ditto ditto ditto, suppressed ...	642	
				Pyinma trees 1 foot diameter and above	127	
				Pyinkado ditto ditto	2,478	
				Ingyin ditto ditto	10	
				Thitya ditto ditto	35	
				Cutch ditto ditto	800	
				All others ditto ditto	6,500	
38	557	Similar to 37	Similar to 37	Unsound teak above 1 foot diameter	392	
				Ditto below ditto	256	
				Sound teak 2½ feet diameter and above	316	
				Ditto 2 to 2½ feet diameter	212	
				Ditto 1½ to 2 feet ditto	744	
				Ditto 1 to 1½ feet ditto	573	
				Ditto below 1 foot ditto, dominant ...	824	
				Ditto ditto ditto, suppressed ...	3,040	
				Pyinma trees 1 foot diameter and above ...	8	
				Pyinkado ditto ditto	712	
				Ingyin ditto ditto	792	
				Thitya ditto ditto	296	
				All others ditto ditto	6,000	
39	429	Slopes mostly steep, especially those from the Yoma. *Soil.*—Shales, very loose on the steep slopes,	Forest dry to very dry. Bamboos flowered *myin*. Teak much injured by fire; seedlings more plentiful than usua	Unsound teak above 1 foot diameter	392	The sources of the Ngaywè and Zagagyi chaungs must be cleared of obstructions.
				Ditto below ditto	256	
				Sound teak 2½ feet diameter and above	88	
				Ditto 2 to 2½ feet diameter	352	
				Ditto 1½ to 2 feet ditto	632	
				Ditto 1 to 1½ feet ditto	888	
				Ditto below 1 foot ditto, dominant ...	824	
				Ditto ditto ditto, suppressed .	3,040	
				Pyinma trees 1 foot diameter and above	8	
				Pyinkado ditto ditto	712	
				Ingyin and thitya ditto ditto	1,088	
				All others ditto ditto	6,000	

40	268	Slopes easy and workable *Soil.*—Loam to shales.	Forest fairly moist near the streams and on the lower portion of the ridge between the Zagagyi and Ngaywè chaungs, dry elsewhere. Bamboos mostly *thaik* and flowered *myin*, some *kyathaung* and *tin*. Teak not plentiful, bamboo jungle very dense. There is a good deal of workable cutch in the compartment.	Unsound teak above 1 foot diameter	79	There are good dragging-paths along the streams. See compartment 11.
				Ditto below ditto	85	
				Sound teak 2½ feet diameter and above	85	
				Ditto 2 to 2½ feet diameter	79	
				Ditto 1½ to 2 feet ditto	152	
				Ditto 1 to 1½ feet ditto	259	
				Ditto below 1 foot ditto, dominant ...	224	
				Ditto ditto ditto, suppressed ...	184	
				Pyinma trees 1 foot diameter and above	30	
				Pyingado ditto ditto	726	
				Cutch ditto ditto	1,088	
				All others ditto ditto	2,876	
41	356	Slopes from the Yoma very steep, elsewhere easy. *Soil.*—Sandy loam to shales.	Forest inclined to moist near the streams and on the main Yoma ridge, dry elsewhere. Teak plentiful and good. Bamboos, *thaik* and *myin*, some *kyathaung* and *tin*.	Unsound teak above 1 foot diameter	156	See compartment 11. There is a good dragging-path in the Yengan chaung from below the waterfall.
				Ditto below ditto	126	
				Sound teak 2½ feet diameter and above	253	
				Ditto 2 to 2½ feet diameter	234	
				Ditto 1½ to 2 feet ditto	351	
				Ditto 1 to 1½ feet ditto	656	
				Ditto below 1 foot ditto, dominant ...	299	
				Ditto ditto ditto, suppressed ...	1,553	
				Pyinma trees 1 foot diameter and above	78	
				Pyingado ditto ditto	897	
				Ingyin & thitya ditto ditto	156	
				Cutch ditto ditto	708	
				All others ditto ditto	3,000	
42	516	Slopes in the north fairly steep. *Soil.*—Loam to shales.	Forest inclined to moist, dry in the north-east. Bamboos principally *thaik* and *tin*, *myin* in the dry part. Teak scarce. Plenty of cutch.	Unsound teak above 1 foot diameter	195	See compartment 11.
				Ditto below ditto	30	
				Sound teak 2½ feet diameter and above	45	
				Ditto 2 to 2½ feet diameter	165	
				Ditto 1½ to 2 feet ditto	570	
				Ditto 1 to 1½ feet ditto	255	
				Ditto below 1 foot ditto, dominant ...	390	
				Ditto ditto ditto, suppressed ...	525	
				Pyinma trees 1 foot diameter and above	75	
				Pyingado ditto ditto	900	
				Cutch ditto ditto	1,995	
				All others ditto ditto	7,590	

DESCRIPTION OF COMPARTMENTS IN NORTH GAMÔN (KAREN AREA) BLOCK, GAMÔN WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
43	340	No steep slopes ... ... *Soil.*—Loam, shaly in parts.	Nearly the whole compartment is covered with old pônzos without teak; a little teak along the Karen area boundary.	Sound teak 1½ to 2 feet diameter	8	
				Ditto 1 to 1½ feet ditto	24	
				Ditto below 1 foot diameter, dominant ...	24	
				Ditto ditto ditto, suppressed...	32	
				Pyinma trees 1 foot diameter and above ...	8	
				Pyingado ditto ditto ...	16	
				All others ditto ditto ...	96	
44	496	No steep slopes ... ... *Soil.*—Sandy loam, shales on the slopes to the north-east.	For the most part old pônza, a fair amount of teak occurring in patches principally in the east half of the compartment.	Girdled teak trees	9	
				Unsound teak above 1 foot diameter	104	
				Ditto below ditto	9	
				Sound teak 2½ feet diameter and above	95	
				Ditto 2 to 2½ feet diameter	162	
				Ditto 1½ to 2 feet ditto	190	
				Ditto 1 to 1½ feet ditto	380	
				Ditto below 1 foot diameter, dominant ...	114	
				Ditto ditto ditto, suppressed ...	228	
				Pyinma trees 1 foot diameter and above ...	19	
				Pyingado ditto ditto	209	
				Kanyin ditto ditto ...	28	
				Thitya ditto ditto	38	
				All others ditto ditto	1,444	
45	476	Similar to 44	Nearly all pônza	Sound teak 1½ to 2 feet in diameter	14	
				Ditto 1 to 1½ feet ditto	126	
				Ditto below 1 foot ditto, dominant ...	42	
				Ditto ditto ditto, suppressed ...	91	
				Pyingado trees 1 foot diameter and above ...	154	
				All others ditto ditto	2,380	
46	482	Similar to 45	Similar to 45	Sound teak 2½ feet diameter and above ...	17	
				Ditto 1 to 1½ feet diameter	85	
				Dilto below 1 foot diameter, dominant ...	85	
				Ditto ditto ditto, suppressed ...	765	
				Pyingado trees 1 foot diameter and above ...	459	
				All others ditto ditto	1,802	

47	537	Similar to 45	Pônzos scattered about all over the compartment which must have been at one time very rich in teak, judging by the patches now remaining untouched by ya-cutters.	Girdled teak trees	5
				Unsound teak above 1 foot diameter	67
				Ditto below ditto	52
				Sound teak 2½ feet diameter and above	52
				Ditto 2 to 2½ feet ditto	192
				Ditto 1½ to 2 feet ditto	296
				Ditto 1 to 1½ feet ditto	899
				Ditto below 1 foot diameter, dominant ...	733
				Ditto ditto ditto, suppressed ...	1,076
				Pyinma trees 1 foot diameter and above ...	20
				Pyingado ditto ditto ...	707
				All others ditto ditto ...	3,307
48	563	Similar to 45	Similar to 47	Girdled teak trees	66
				Unsound teak above 1 foot diameter	185
				Ditto below ditto	111
				Sound teak 2½ feet diameter and above	169
				Ditto 2 to 2½ feet diameter	340
				Ditto 1½ to 2 feet ditto	630
				Ditto 1 to 1½ feet ditto	1,228
				Ditto below 1 foot ditto, dominant ...	976
				Ditto ditto ditto, suppressed ...	1,520
				Pyinma trees 1 foot diameter and above	44
				Pyingado trees 1 foot diameter and above ...	1,036
				All others ditto ditto	4,588
49	513	Similar to 45	Similar to 47	Girdled teak trees	8
				Unsound teak above 1 foot diameter	119
				Ditto below ditto	156
				Sound teak 2½ feet diameter and above	138
				Ditto 2 to 2½ feet diameter	284
				Ditto 1½ to 2 feet ditto	562
				Ditto 1 to 1½ feet ditto	1,191
				Ditto below 1 foot ditto, dominant ...	1,260
				Ditto ditto ditto, suppressed ...	956
				Pyinma trees 1 foot diameter and above	32
				Pyingado ditto ditto	857
				All others ditto ditto	4,560
50	413	No steep slopes ... ... *Soil.*—A rich loam.	All pônzo with the exception of a small patch of natural forest where the counting was made.	Unsound teak above 1 foot diameter	7
				Ditto below ditto	10
				Sound teak 2½ feet diameter and above	6
				Ditto 2 to 2½ feet diameter	17
				Ditto 1½ to 2 feet ditto	37
				Ditto 1 to 1½ feet ditto	47
				Ditto below 1 foot ditto, dominant ...	59
				Ditto ditto ditto, suppressed ...	40
				Pyinma trees 1 foot diameter and above	2
				Pyingado ditto ditto	85
				All others ditto ditto	188

The *kyauk myaungs* in the Pindaing chaung should be cleared.

DESCRIPTION OF COMPARTMENTS IN NORTH GAMÔN (KAREN AREA) BLOCK, GAMÔN WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
51	535	No steep slopes ... ... *Soil.*—Rich loam.	Forest generally moist, inclined to dry in the east of the compartment. Most of the compartment contains natural forest with teak; patches of pônzo here and there, mostly to the north and north-east, where new yas are cutting. Bamboo (*kyathaung*) jungle without teak along the main stream which is fringed with *kaing* grass.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet ditto ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Cutch ditto ditto ... ... All others ditto ditto	4 42 18 18 48 150 750 628 874 8 480 8 1,460	
52	692	Slopes from the ridge along the north-east of the compartment; fairly steep at times. *Soil.*—Generally a good loam on the boundary ridge; in the north-east corner of the compartment the soil becomes slightly lateritic, and again on the ridge running along the south and east of the compartment.	Forest moist except on the 'Kyibatdaung, where it is dry. Along the main stream there is a good deal of very old pônzo; elsewhere teak is very plentiful and of excellent growth, young trees being exceptionally plentiful in the south and south-east part of the compartment where the ingyin and thitya and a few In trees were found.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Ingyin and thitya ditto ... ... All others ditto ditto	21 189 399 210 637 1,113 2,275 2,023 2,527 14 1,774 700 4,536	The water-fall in the stream which forms the west boundary ought to be made fit for floating timber over.
53	412	Slopes to the Zayagalè chaung from the Kyibat ridge are steep, elsewhere all easy. *Soil.*—Good loam.	Nearly the whole compartment is pônzo without teak, what there is being confined to the Kyibat ridge to the west of the compartment.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed... Pyingado trees 1 foot diameter and above ... All others ditto ditto	7 13 7 18 30 106 141 142 223 111 2,989	

54	658	No steep slopes ... ... *Soil.*—Good loam, slightly lateritic on the Ingyindaung.	Nearly all pônzo, the only portion untouched being on the Ingyindaung.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet ditto ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot diameter, dominant ... Ditto ditto ditto, suppressed ... Pyingado trees 1 foot diameter and above ... All others ditto ditto	4 4 4 2 2 80 24 50 220 2,200
55	886	Slopes not steep; flat ground along the main stream. *Soil.*—A good loam.	There are pônzos all along the main stream which is fringed in most places with a dense growth of *kaing* grass, elsewhere there is natural forest, but with very little teak. There is a growth of young teak in some of the pônzos which appears to have been planted by the Karens.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant... Ditto ditto ditto, suppressed Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Cutch ditto ditto ... ... All others ditto ditto	3 95 44 61 132 268 445 632 1,105 176 744 10 •5,000
56	458	A high ridge running through the compartment; north and south slopes not steep. In the south corner of the compartment the slopes to the Kyaukchaung are steep and covered with big blocks of sandstone. *Soil.*—Generally loam, slightly shaly at times.	The only natural forest is found along the main ridge through the compartment, it is moist as a rule with a few dry patches. There are numerous stumps of trees girdled in 1863 and 1872. The forest along the Kyaukchaung is evergreen.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant... Ditto ditto ditto, suppressed Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... All others ditto ditto	8 30 12 42 64 114 110 119 184 18 404 5,000
57	647	A fairly high ridge running down north and south through the compartment; the slopes from this ridge are not steep. *Soil.*—A rich loam; shales on some of the slopes.	Moist, evergreen along the streams. There is a good deal of old pônzo without teak in the compartment; the teak is only found along the ridge. Bamboos principally *kyathaung*, some *tin*, *waya* and *wapyu*, with *wathabwot* in the evergreen forest.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed...	8 18 14 20 26 76 148 74 870

DESCRIPTION OF COMPARTMENTS IN NORTH GAMÔN (KAREN AREA) BLOCK, GAMÔN WORKING CIRCLE—concluded.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
				Pyinma trees 1 foot diameter and above	4	
				Pyingado ditto ditto	328	
				Kanyin ditto ditto	4	
				All others ditto ditto	3,644	
58	902	The slopes from the ride along the east boundary of the compartment to the sources of the Subôk chaung are very steep in places. The slopes from the spurs running west are also steep, but not unworkable. *Soil.*—Near the streams sandy loam, on the slopes shales with large blocks of sandstone on the surface.	From evergreen along the Kayu chaung and moist along the Gamôn chaung to very dry on the ridge to the east. In the moist forest the bamboos are principally *kyathaung* and *tin*, in the dry forest *myin* in flower. There are old pônzos in places, but on the whole teak is fairly plentiful and well distributed over the compartment.	Girdled teak trees	68	The Subôk chaung and in places the Kayu chaung must be cleared of rocky obstructions.
				Unsound teak above 1 foot diameter	160	
				Ditto below ditto	56	
				Sound teak 2½ feet diameter and above	164	
				Ditto 2 to 2½ feet diameter	308	
				Ditto 1½ to 2 feet ditto	736	
				Ditto 1 to 1½ feet ditto	1,084	
				Ditto below 1 foot ditto, dominant ...	552	
				Ditto ditto ditto, suppressed ...	1,504	
				Pyinma trees 1 foot diameter and above	80	
				Pyingado ditto ditto	1,128	
				All others ditto ditto	4,172	

DESCRIPTION OF COMPARTMENTS IN NORTH GAMÔN BLOCK, GAMÔN WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
59	283	No high hills or steep slopes. *Soil.*—Mostly sandy loam, shales on the slopes.	Moist on the lower slopes to fairly dry on the ridges to the south-east and south-west, evergreen along the Kayu chaung. Teak fairly plentiful; but mostly large trees; young stock very deficient. Bamboos principally *kya-thaung*, some *tin* and a little *myin*.	Unsound teak above 1 foot diameter	86	Natural re-generation must be assisted and creeper-cutting carried out.
				Ditto below ditto	57	
				Sound teak 2½ feet diameter and above	92	
				Ditto 2 to 2½ feet diameter	236	
				Ditto 1½ to 2 feet ditto	388	
				Ditto 1 to 1½ feet ditto	446	
				Ditto below 1 foot ditto, dominant ...	402	
				Ditto ditto ditto, suppressed ...	432	
				Pyinma trees 1 foot diameter and above	7	
				Pyingado ditto ditto	1,750	
				All others ditto ditto	5,673	
60	592	No steep slopes ... ... *Soil.*—Generally sandy loam, shales on the ridge to the east. Laterite in the west.	Moist, dry on the top of the ridge to the east. Indaing on the laterite in the west of the compartment. Teak is good and plentiful and not such a large proportion of big trees as usual. Bamboos principally *kyathaung*, some *thaik*, *tin*, and *waya*, *myin* on the ridge to the east.	Unsound teak above 1 foot diameter	110	The Wapyu chaung, where it forms the west boundary of the compartment, is too narrow and winding for dragging, so timber from this compartment must be dragged either to the Kayu or the Gamôn chaung.
				Ditto below ditto	87	
				Sound teak 2½ feet diameter and above	114	
				Ditto 2 to 2½ feet diameter	119	
				Ditto 1½ to 2 feet ditto	416	
				Ditto 1 to 1½ feet ditto	1,641	
				Ditto below 1 foot ditto, dominant ...	1,523	
				Ditto ditto ditto, suppressed ...	1,721	
				Pyinma trees 1 foot diameter and above	43	
				Pyingado ditto ditto	1,189	
				All others ditto ditto	6,200	
61	463	Undulating ground and low hills in the east with flat ground in the west of the compartment. *Soil.*—Sandy loam, laterite in the west.	The east half of the compartment contains moist forest with teak, in the extreme west there is indaing, and elsewhere dense bamboo jungle (*kyathaung*, *tin*, and *thaik*) with no teak.	Girdled teak trees	2	Plantations ought to be successful in the thick bamboo jungle in the centre and north of the compartment.
				Unsound teak above 1 foot diameter	19	
				Ditto below ditto	4	
				Sound teak 2½ feet diameter and above	21	
				Ditto 2 to 2½ feet diameter	50	
				Ditto 1½ to 2 feet ditto	57	
				Ditto 1 to 1½ feet ditto	81	
				Ditto below 1 foot ditto, dominant ...	216	
				Ditto ditto ditto, suppressed ...	74	
				Pyinma trees 1 foot diameter and above	24	
				Pyingado ditto ditto	1,036	
				Ingyin and thitya ditto ditto	9	
				Cutch ditto ditto	129	
				All others ditto ditto	8,448	

DESCRIPTION OF COMPARTMENTS IN NORTH GAMÔN BLOCK, GAMÔN WORKING CIRCLE—(concluded).

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
62	783	Undulating ground and low hills with a gradual rise to the east. *Soil.*—Mostly laterite, more loamy in the north-east.	Mostly indaing in the north-east and along the chaungs there is bamboo jungle (*kyathaung*, *thaik*, *tin*, *wapyu*) which contains a little teak.	Sound teak 2½ feet diameter and above	4	Planting should be carried out in the north-east of the compartment and along the streams.
				Ditto 2 to 2½ feet diameter	9	
				Ditto 1½ to 2 feet ditto	19	
				Ditto 1 to 1½ feet ditto	19	
				Ditto below 1 foot ditto, dominant ...	28	
				Ditto ditto ditto, suppressed ...	4	
				Pyinma trees 1 foot diameter and above	24	
				Pyingado ditto ditto	603	
				Ingyin and thitya ditto ditto	388	
				In ditto ditto	3,235	
				Cutch ditto ditto	196	
				All others ditto ditto	3,244	
63	700	Gently undulating, flat to the west. *Soil.*—Laterite, a loamy strip along the streams.	Principally indaing. There are narrow strips of bamboo jungle along the stream with a wretched looking teak tree here and there.	Sound teak trees below 1 foot diameter, dominant	18	
				Ditto ditto ditto, suppressed	48	
				Pyingado trees 1 foot diameter and above ...	30	
				Kanyin ditto ditto ...	51	
				Ingyin and thitya ditto ditto ...	3,647	
				In ditto ditto ...	5,215	
				Cutch ditto ditto ...	18	
				All others ditto ditto ...	2,639	
64	1683	Similar to compartment 63 ...	Similar to compartment 63. There is more bamboo jungle with teak along the streams, but indaing prevails.	Girdled teak trees	10	Plantations would be successful in the bamboo jungle along the streams.
				Unsound teak above 1 foot diameter	98	
				Ditto below ditto	24	
				Sound teak 2½ feet diameter and above	14	
				Ditto 2 to 2½ feet diameter	56	
				Ditto 1½ to 2 feet ditto	112	
				Ditto 1 to 1½ feet ditto	314	
				Ditto below 1 foot ditto, dominant ...	352	
				Sound teak below 1 foot diameter, suppressed ...	430	
				Pyinma trees 1 foot diameter and above	24	
				Pyingado ditto ditto	192	
				Ingyin and thitya ditto ditto	2,044	
				Cutch ditto ditto	287	
				All others ditto ditto	22,782*	* This includes In trees not separated by a mistake of an enumerator.

65	1078	Similar to 63	Similar to 64	Unsound teak above 1 foot diameter	32
				Ditto below ditto	6
				Sound teak 2½ feet diameter and above	16
				Ditto 2 to 2½ feet diameter	16
				Ditto 1½ to 2 feet ditto	56
				Ditto 1 to 1½ feet ditto	126
				Ditto below 1 foot ditto, dominant .	86
				Ditto ditto ditto, suppressed ...	176
				Pyinma trees 1 foot diameter and above . .	38
				Pyingado ditto ditto	152
				Ingyin and thitya ditto ditto	620
				In ditto ditto	4,550
				Cutch ditto ditto	1,070
				All others ditto ditto .. .	16,500

See compartment 64.

DESCRIPTION OF COMPARTMENTS IN SOUTH GAMÔN BLOCK, GAMÔN WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
66	692	Similar to 64	Similar to 64. Very little teak and less bamboo jungle...	Sound teak 2½ feet diameter and above	4	
				Ditto below 1 foot ditto, dominant ...	4	
				Ditto ditto ditto, suppressed ...	12	
				Pyinma trees 1 foot diameter and above ...	74	
				Pyingado ditto ditto	554	
				Kanyin ditto ditto	26	
				Ingyin and thitya ditto ditto	1,614	
				In ditto ditto	4,914	
				All others ditto ditto ...	10,255	
67	640	Similar to 64. Low hills in the north-east and south-west. *Soil.*—A clayey loam, laterite in the north.	Generally thick bamboo and tree jungle with no teak to speak of. Pure indaing on the ridge to the north.	Unsound teak above 1 foot diameter	2	All along the Kadet chaung plantations would be most successful.
				Ditto below ditto	4	
				Sound teak 2½ feet diameter and above	12	
				Ditto 2 to 2½ feet diameter	16	
				Ditto 1½ to 2 feet ditto	18	
				Ditto 1 to 1½ feet ditto	28	
				Ditto 1 foot ditto, dominant ...	16	
				Ditto ditto ditto, suppressed ...	84	
				Pyinma trees 1 foot diameter and above ...	114	
				Pyingado ditto ditto ...	26	
				Kanyin ditto ditto ...	72	
				In ditto ditto ...	350	
				Cutch ditto ditto ...	60	
				All others ditto ditto ...	10,070	
68	445	Hilly. The slopes from the Tabodaung are very easy. *Soil.*—Laterite in the north-west, elsewhere clayey loam.	A little indaing in the north-west, elsewhere thick tree jungle with few bamboos except near the streams and very little teak.	Girdled teak trees	2	There is plenty of excellent ground for planting which should be taken advantage of.
				Unsound teak above 1 foot diameter	8	
				Ditto below ditto	6	
				Sound teak 2½ feet diameter and above	18	
				Ditto 2 to 2½ feet diameter	64	
				Ditto 1½ to 2 feet ditto	88	
				Ditto 1 to 1½ feet ditto	126	
				Ditto below 1 foot ditto, dominant ...	58	
				Ditto ditto ditto, suppressed ...	28	
				Pyinma trees 1 foot diameter and above ...	70	
				Pyingado ditto ditto ...	118	
				Kanyin ditto ditto ...	4	
				Ingyin and thitya ditto ditto ...	12	
				In ditto ditto ...	40	
				Cutch ditto ditto ...	150	
				All others ditto ditto ...	4,468	

DESCRIPTION OF COMPARTMENTS IN SOUTH GAMÔN (KAREN AREA) BLOCK, GAMÔN WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
69	878	Undulating ground rising to low hills in the north-east and east. *Soil* —A good loam.	There are large patches of pônzo without teak, with pieces of good teak forest scattered about in between the pônzos. Bamboo *kyathaung* and *tin*, a little *myin* on the Karen area boundary ridge; the teak is very good. Some girdled trees of great size too big to work except in short lengths.	Girdled teak trees	15	
				Unsound teak above 1 foot diameter	54	
				Ditto below ditto	15	
				Sound teak 2½ feet diameter and above	54	
				Ditto 2 to 2½ feet diameter	99	
				Ditto 1½ to 2 feet ditto	177	
				Ditto 1 to 1½ feet ditto	306	
				Ditto below 1 foot ditto, dominant ...	279	
				Ditto ditto ditto, suppressed ...	396	
				Pyinma trees 1 foot diameter and above ...	102	
				Pyingado ditto ditto ...	834	
				All others ditto ditto ...	3,648	
70	674	Hilly but no steep slopes ... *Soil.*—Generally good loam, lateritic in places to the west.	About one-third of the compartment principally in the south part contains good teak forest, the remainder is covered with pônzos without teak, except in very small patches. Bamboos principally *kyathaung*, near the stream *thaik* and *tin*.	Girdled teak trees	7	
				Unsound teak above 1 foot diameter	89	
				Ditto below ditto	7	
				Sound teak 2½ feet diameter and above	37	
				Ditto 2 to 2½ feet diameter	67	
				Ditto 1½ to 2 feet ditto	282	
				Ditto 1 to 1½ feet ditto	365	
				Ditto below 1 foot ditto, dominant ...	195	
				Ditto ditto ditto, suppressed ...	202	
				Pyinma trees 1 foot diameter and above ...	165	
				Pyingado ditto ditto ...	510	
				Ingyin and thitya ditto ditto ...	20	
				In ditto ditto ...	12	
				Ditch ditto ditto ...	5	
				All others ditto ditto ...	3,930	
71	905	Similar to 70	There is excellent teak forest on the watershed between the Thanyinsein and Sangyi chaungs, though it is patchy and mixed with pônzo. Bamboos principally *thaik*, some *tin* and *myin* on the ridges.	Girdled teak trees	20	
				Unsound teak above 1 foot diameter	190	
				Ditto below ditto	100	
				Sound teak 2½ feet diameter and above	20	
				Ditto 2 to 2½ feet diameter	220	
				Ditto 1½ to 2 feet ditto	340	
				Ditto 1 to 1½ feet ditto	760	
				Ditto below 1 foot ditto, dominant ...	800	
				Ditto ditto ditto, suppressed ...	960	
				Pyinma trees 1 foot diameter and above	160	
				Pyingado ditto ditto	670	
				Ingyin and thitya ditto ditto	40	
				All others ditto ditto	5,890	

DESCRIPTION OF COMPARTMENTS IN SOUTH GAMÔN (KAREN AREA) BLOCK, GAMÔN WORKING CIRCLE—concluded.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
72*	1,069	From flat along the boundary of the reserve to low hills on the east and south-east. *Soil.*—A clayey loam with laterite in blocks on the surface. pure laterite in the centre of the compartment.	There is a stretch of indaing on the ridge running north-west and south-east through the compartment. Elsewhere there is thick tree forest with very little teak. Bamboos *kyathaung*, *thaik*, and *tin*.	Unsound teak above 1 foot diameter	3	Plantations would be successful in the south-east and east of the compartment where the soil is least lateritic.
				Ditto below ditto	6	
				Sound teak 2½ feet diameter and above	6	
				Ditto 2 to 2½ feet diameter	9	
				Ditto 1½ to 2 feet ditto	27	
				Ditto 1 to 1½ feet ditto	54	
				Ditto below 1 foot ditto, dominant ...	66	
				Ditto ditto ditto, suppressed ...	93	
				Pyinma trees 1 foot diameter and above	222	
				Pyingado ditto ditto	1,845	
				Kanyin ditto ditto	9	
				Ingyin and thitya ditto ditto	450	
				In ditto ditto	400	
				All others ditto ditto	20,770	
73	766	Hilly with a steady rise to the east. *Soil.*—A good loam.	About half the compartment contains good teak forest mixed up with old pônzos without teak. Bamboos *kyathaung* and *tin*.	Unsound teak above 1 foot diameter	157	On the ridge in the centre of the compartment there is a plantation in very good order about 15 years old.
				Ditto below ditto	29	
				Sound teak 2½ feet diameter and above	96	
				Ditto 2 to 2½ feet diameter	192	
				Ditto 1½ to 2 feet ditto	370	
				Ditto 1 to 1½ feet ditto	1,290	
				Ditto below 1 foot ditto, dominant ...	473	
				Ditto ditto ditto, suppressed ...	259	
				Pyinma trees 1 foot diameter and above ...	984	
				Pyingado ditto ditto	3,090	
				All others ditto ditto	8,235	
74	1,269	Similar to 73	Similar to 73	Girdled teak trees	27	
				Unsound teak above 1 foot diameter	104	
				Ditto below ditto	82	
				Sound teak 2½ feet diameter and above	70	
				Ditto 2 to 2½ feet diameter	132	
				Ditto 1½ to 2 feet ditto	600	
				Ditto 1 to 1½ feet ditto	1,920	
				Ditto below 1 foot ditto, dominant ...	864	
				Ditto ditto ditto, suppressed ...	885	
				Pyinma trees 1 foot diamater and above	55	
				Pyingado ditto ditto	1,710	
				All others ditto ditto	6,336	

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DESCRIPTION OF COMPARTMENTS IN SOUTH GAMÔN BLOCK, GAMÔN WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
76	436	Hilly. Slopes from the ridge forming east boundary rather steep at times. *Soil.*—Loam to shales on the slopes, very loose on the ridge.	Moist to dry on the ridge to the east. Teak very good, though young stock scarce. Bamboos *kyathaung* and *myin*.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Kanyin ditto ditto ... ... All others ditto ditto	133 105 35 224 238 294 497 511 266 21 931 21 4,438	There is a lot of girdled timber in the compartment and encouragement should be given to contractors to bring it out. Natural regeneration is very bad.
77	740	The slopes from the Gwèbindaung to the sources of the Ngapi-in chaung are very steep in places, nowhere else very steep. *Soil.*—Sandy loam near the stream, shales on the slopes.	Moist near the streams and in sheltered ravines, dry on the slopes and very dry on the Gwèbindaung. Teak excellent on the whole though there is next to no young stock. Bamboos *kyathaung* and *tin* in the moist forest, *myin* in flower on the dry slopes and ridges.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... Ditto 2 to 2½ feet diameter ... Ditto 1½ to 2 feet ditto ... Ditto 1 to 1½ feet ditto ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... Pyingado ditto ditto ... All others ditto ditto ...	324 245 50 712 727 842 921 309 568 36 2,686 8,136	The Ngapi-in *kadin* near the mouth of the Subôk Myaung could with little difficulty be cleared and there is no reason why timber should not come out down the Ngapi-in chaung. It is absolutely necessary that immediate steps should be taken to increase the young stock of teak in this part of the forest.

DESCRIPTION OF COMPARTMENTS IN SOUTH GAMÔN (KAREN AREA) BLOCK, GAMÔN WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
78	796	Hilly. No steep slopes. *Soil.*—Rich loam.	There are old pônzos all over the compartments with small patches of teak here and there.	Unsound teak above 1 foot diameter	12	
				Sound teak 2½ feet diameter and above	8	
				Ditto 2 to 2½ feet diameter	20	
				Ditto 1½ to 2 feet ditto	68	
				Ditto 1 to 1½ feet ditto	136	
				Ditto below 1 foot ditto, dominant ...	104	
				Ditto ditto ditto, suppressed ...	112	
				Pyinma trees 1 foot diameter and above ...	12	
				Pyingado ditto ditto	556	
				All others ditto ditto	8,000	
79	859	Similar to 78. The slopes from the Gwèbindaung are steep in places and the soil on them is shaley.	Similar to 78. Teak most plentiful on the slopes from the Gwèbindaung.	Girdled teak trees	4	
				Unsound teak above 1 foot diameter	26	
				Ditto below ditto	8	
				Sound teak 2½ feet diameter and above	24	
				Ditto 2 to 2½ feet ditto	42	
				Ditto 1½ to 2 feet ditto	60	
				Ditto 1 to 1½ feet ditto	184	
				Ditto below 1 foot ditto, dominant ...	118	
				Ditto ditto ditto, suppressed ...	140	
				Pyinma trees 1 foot diameter and above	16	
				Pyingado ditto ditto ...	168	
				Kanyin ditto ditto ...	20	
				All others ditto ditto ...	5,228	
80	1,314	Hilly. No steep slopes ... *Soil.*—Rich loam.	There are patches of pônzo principally along the streams, but the greater part of the compartment contains excellent teak forest, the great drawback being the scarcity of young stock.	Girdled teak trees	10	
				Unsound teak above 1 foot diameter	200	
				Ditto below ditto	80	
				Sound teak 2½ feet diameter and above	190	
				Ditto 2 to 2½ feet diameter	550	
				Ditto 1½ to 2 feet ditto	1,000	
				Ditto 1 to 1½ feet ditto	4,020	
				Ditto below 1 foot diameter, dominant ...	940	
				Ditto ditto ditto, suppressed ...	1,510	
				Pyinma trees 1 foot diameter and above ...	290	
				Pyingado ditto ditto	8,370	
				All others ditto ditto	13,530	

DESCRIPTION OF COMPARTMENTS IN SOUTH GAMÔN BLOCK, GAMÔN WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number	
81	780	Flat or gently undulating with a rise to the east. *Soil.*—Mostly laterite, clayey loam on the higher ground to the east.	The greater part of the compartment contains indaing or bamboo jungle without teak. The teak occurs on the rising ground along the east boundary.	Unsound teak above 1 foot diameter	50	
				Ditto below ditto	25	
				Sound teak 2½ feet diameter and above	45	
				Ditto 2 to 2½ feet diameter	45	
				Ditto 1½ to 2 feet ditto	135	
				Ditto 1 to 1½ feet ditto	510	
				Ditto below 1 foot ditto, dominant ...	360	
				Ditto ditto ditto, suppressed ...	375	
				Pyinma trees 1 foot diameter and above	125	
				Pyingado ditto ditto	870	
				Ingyin & thitya ditto ditto	755	
				In ditto ditto	765	
				All others ditto ditto	2,580	

DESCRIPTION OF COMPARTMENTS IN TAUNG CHAUNG BLOCK, GAMÔN WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
1	687	Flat ground along the Taung chaung rising abruptly to the ridges on the south and east from the Kwegyadaung on the east; the slopes are very steep in places. *Soil.*—Loamy along the banks of the stream, elsewhere grey slaty shales with dark coloured sandstone blocks all over the surface.	Forest dry on the low ground to very dry on ridges to the south and east. Teak fairly well distributed but of very poor growth, the trees being stunted and much injured by fire. Bamboos principally *myin*, which has flowered in patches, near the streams a little *thaik*. There is plenty of good cutch in the compartment.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Cutch ditto ditto ... ... All others ditto ditto	215 75 255 320 455 885 1,010 1,130 60 1,575 1,040 9,075	The Baludaung chaung and the sources of the Taung chaung are rocky and must be cleared. The number of young teak trees is probably under-estimated owing to the difficulty of seeing the seedlings after the leaves have fallen.
2	672	Low hills with flat ground along the streams in the west half of the compartment, a gradual rise to the north-east and east where the slopes are very steep. *Soil.*—Clayey loam on the low ground, very loose slaty shales on the slopes.	From dry in the west to very dry in the east and north-east of the compartment. Teak of very poor growth and scarcely any young stock visible. Bamboos a little *thaik* and *tin* near the streams elsewhere *myin*. Cutch very plentiful.	Unsound teak above 1 foot diameter .. ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Ingyin and thitya ditto ditto ... Cutch ditto ditto ... ... All others ditto ditto	62 18 68 118 272 676 224 366 56 558 6 1,748 4,222	Obstructions in the feeders of the Taung chaung to be cleared. See 1.
3	546	Very hilly, slopes from the ridge in the south and the Yoma to the east are very steep. *Soil.*—Grey slaty shales, more sandy on the Yoma slopes and along the stream.	Very dry except on the slopes close to the Yoma along which there is a strip of moist forest containing no teak. Elsewhere teak is plentiful, but of wretched growth. Bamboos *kyathaung* near the Yoma, *thaik* near the streams, and everywhere else *myin*.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Kanyin ditto ditto ... ... Cutch ditto ditto ... ... All others ditto ditto	116 28 232 244 534 652 235 560 94 1,580 25 320 7,165	There is a big kadin in the Palaung chaung where the path over the Yoma leaves it and above this the stream is very rocky, timber from this part of the compartment cannot come out till these obstructions are removed.

DESCRIPTION OF COMPARTMENTS IN TAUNG CHAUNG BLOCK, GAMÔN WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock. Description of trees.	Number.	Remarks.
4	778	Similar to 3	Similar to 3	Unsound teak above 1 foot diameter	262	The sources of the Hngettawgyi chaung are very rocky.
				Ditto below ditto	156	
				Sound teak 2½ feet diameter and above	336	
				Ditto 2 to 2½ feet ditto	246	
				Ditto 1½ to 2 feet ditto	878	
				Ditto 1 to 1½ feet ditto	945	
				Ditto below 1 foot ditto, dominant	872	
				Ditto ditto ditto, suppressed	3,616	
				Pyinma trees 1 foot diameter and above	310	
				Pyingado ditto ditto	1,894	
				Ingyin and thitya ditto ditto	720	
				Cutch ditto ditto	540	
				All others ditto ditto	9,488	
5	473	Similar to 4	Similar to 4	Unsound teak above 1 foot diameter	338	Obstructions at the sources of the Hngettawgalè and Hngettawgyi chaungs to be cleared.
				Ditto below ditto	52	
				Sound teak 2½ feet diameter and above	130	
				Ditto 2 to 2½ feet diameter	494	
				Ditto 1½ to 2 feet ditto	780	
				Ditto 1 to 1½ feet ditto	1,092	
				Ditto below 1 foot ditto, dominant	598	
				Ditto ditto ditto, suppressed	910	
				Pyinma trees 1 foot diameter and above	26	
				Pyingado ditto ditto	2,860	
				Ingyin and thitya ditto ditto	182	
				All others ditto ditto	8,814	
6	508	Similar to 4	Similar to 4	Unsound teak above 1 foot diameter	225	The sources of the streams and feeders very rocky.
				Ditto below ditto	165	
				Sound teak 2½ feet diameter and above	210	
				Ditto 2 to 2½ feet diameter	315	
				Ditto 1½ to 2 feet ditto	450	
				Ditto 1 to 1½ feet ditto	825	
				Ditto below 1 foot ditto, dominant	1,065	
				Ditto ditto ditto, suppressed	900	
				Pyinma trees 1 foot diameter and above	90	
				Pyingado ditto ditto	1,785	
				Cutch ditto ditto	840	
				All others ditto ditto	6,750	

7	524	Slopes in the east half of the compartment very steep, to the west easy. *Soil.*—Similar to 4.	Similar to 4. Large teak scarcer than usual, and more young trees.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet ditto ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot diameter, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... Pyingado ditto ditto ... Cutch ditto ditto ... All others ditto ditto ...	83 16 58 124 250 1,110 1,178 2,880 158 1,518 722 5,486	Streams pretty free from obstructions except at the sources.
8	362	Flat ground along the stream with rather an abrupt rise to the north, but slopes not steep. *Soil.*—Loam to shales on the slopes in the north, on the Natkan ridge the surface is covered with big blocks of sandstone and a crystalline rock resembling gneiss.	Fairly moist along the stream to dry on the ridge, not much teak except on the west part of the Natkan ridge where there are some splendid trees. Bamboos mostly *myin*, a little *kyathaung*, *thaik* and *tin* by the stream.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Cutch ditto ditto ... ... All others ditto ditto	32 14 100 146 176 270 854 810 78 1,186 616 7,456	The stream forming the west boundary is rather rocky and wants clearing.
9	460	Flat ground near the streams, but generally hilly, slopes steepest in the east, but all workable. *Soil.*—Loam to shales on the hills.	Fairly moist near the streams, dry on the high ground and teak of good growth.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Cutch ditto ditto ... ... All others ditto ditto	98 58 124 110 175 336 676 1,319 175 1,345 1,630 6,415	
10	497	In the east half the slopes are very steep, below this they are steep, but easy to work. *Soil.*—Principally shales.	Similar to 9	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ...	143 22 121 559 682 1,727 209 913	

DESCRIPTION OF COMPARTMENTS IN TAUNG CHAUNG BLOCK, GAMÔN WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
				Pyinma trees 1 foot diameter and above	132	
				Pyingado ditto ditto	1,518	
				Ingyin and thitya ditto ditto	110	
				Cutch ditto ditto	374	
				All others ditto ditto	8,822	
11	341	A well defined ridge running north-east and south-west through the compartment from which the slopes are not steep. *Soil.*—Loam to shales on the slopes.	Inclined to moist near the streams, dry on the hills. Teak of good growth. Bamboo principally *myin*.	Unsound teak above 1 foot diameter	77	
				Ditto below ditto	38	There is a kadin in the Hngettawgale chaung which should be removed, otherwise the streams are excellent for dragging.
				Sound teak 2½ feet diameter and above	140	
				Ditto 2 to 2½ feet diameter	262	
				Ditto 1½ to 2 feet ditto	455	
				Ditto 1 to 1½ feet ditto	647	
				Ditto below 1 foot ditto, dominant...	836	
				Ditto ditto ditto, suppressed	1,452	
				Pyinma trees 1 foot diameter and above	308	
				Pyingado ditto ditto	1,029	
				Cutch ditto ditto	846	
				All others ditto ditto	4,711	
12	429	Similar to 11	Similar to 11	Unsound teak above 1 foot diameter	22	
				Ditto below ditto	11	
				Sound teak 2½ feet diameter and above	93	
				Ditto 2 to 2½ feet diameter	115	
				Ditto 1½ to 2 feet ditto	247	
				Ditto 1 to 1½ feet ditto	924	
				Ditto below 1 foot ditto, dominant...	616	
				Ditto ditto ditto, suppressed	995	
				Pyinma trees 1 foot diameter and above	99	
				Pyingado ditto ditto	522	
				Ingyin and thitya ditto ditto	16	
				Cutch ditto ditto	1,083	
				All others ditto ditto	6,187	
13	533	Flat ground along the main stream rising north-east and south-west, no steep slopes. *Soil.*—Rich loam to shales on the hills.	Moist near the stream, dry on the hills. Teak most plentiful on the high ground; on the lower slopes the bamboo jungle is very dense, the principal species being *kyathaung* and *tin*. Teak is of good growth.	Unsound teak above 1 foot diameter	63	
				Ditto below ditto	42	
				Sound teak 2½ feet diameter and above	98	
				Ditto 2 to 2½ feet ditto	224	
				Ditto 1½ to 2 feet ditto	581	
				Ditto 1 to 1½ feet ditto	1,806	
				Ditto below 1 foot diameter, dominant ...	637	
				Ditto ditto ditto, suppressed ...	2,401	

				Pyinma trees 1 foot diameter and above	91	
				Pyingado ditto ditto	1,631	
				Cutch ditto ditto	364	
				All others ditto ditto	6,818	
14	456	Similar to 11	Similar to 11. Teak unaccountably scarce. Cutch is very abundant.	Unsound teak above 1 foot diameter	42	Plantations should be made in this compartment as soon as possible.
				Ditto below ditto	28	
				Sound teak 2 to 2½ feet diameter	71	
				Ditto 1½ to 2 feet ditto	156	
				Ditto 1 to 1½ feet ditto	241	
				Ditto below 1 foot ditto, dominant ...	311	
				Ditto ditto ditto, suppressed ...	653	
				Pyinma trees 1 foot diameter and above ...	284	
				Pyingado ditto ditto ...	1,661	
				Cutch ditto ditto ...	2,428	
				All others ditto ditto ...	7,030	
15	364	Similar to 13	Similar to 13	Girdled teak trees	45	
				Unsound teak above 1 foot diameter	72	
				Ditto below ditto	18	
				Sound teak 2½ feet diameter and above	182	
				Ditto 2 to 2½ feet diameter	264	
				Ditto 1½ to 2 feet ditto	292	
				Ditto 1 to 1½ feet ditto	609	
				Ditto below 1 foot ditto, dominant ...	992	
				Ditto ditto ditto, suppressed ...	1,683	
				Pyinma trees 1 foot diameter and above	54	
				Pyingado ditto ditto	1,019	
				Cutch ditto ditto	63	
				All others ditto ditto	4,540	
16	449	Slopes nowhere steep; a good dragging-path along the Hngetgaledaung. *Soil.*—Rich loam to shaly on the ridge.	Fairly moist near the stream, but mostly dry and very dry on the Hngetgalèdaung. Bamboo principally *myin*. Teak of good growth.	Unsound teak above 1 foot diameter	82	
				Ditto below ditto	82	
				Sound teak 2½ feet diameter and above	76	
				Ditto 2 to 2½ feet diameter	106	
				Ditto 1½ to 2 feet ditto	212	
				Ditto 1 to 1½ feet ditto	708	
				Ditto below 1 foot diameter, dominant ...	1,244	
				Ditto ditto ditto, suppressed ...	684	
				Pyinma trees 1 foot diameter and above ...	47	
				Pyingado ditto ditto ...	1,374	
				Cutch ditto ditto ...	1,286	
				All others ditto ditto ...	5,770	
17	657	Slopes from the Natkan ridge fairly steep. *Soil.*—Rich loam to sandy shales.	Dry except just near the streams. Teak good. Stumps of girdled teak trees fairly numerous. Bamboo principally *myin*.	Girdled teak trees	28	The Wetkyan Myaung is rocky and the kadin at its mouth must be cleared away.
				Unsound teak above 1 foot diameter	150	
				Ditto below ditto	84	

DESCRIPTION OF COMPARTMENTS IN TAUNG CHAUNG KAREN AREA BLOCK, GAMÔN WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
				Sound teak 2½ feet diameter and above	206	
				Ditto 2 to 2½ feet diameter	263	
				Ditto 1½ to 2 feet ditto	394	
				Ditto 1 to 1½ feet ditto	507	
				Ditto below 1 foot ditto, dominant ...	620	
				Ditto ditto ditto, suppressed ...	1,381	
				Pyinma trees 1 foot diameter and above	338	
				Pyingado ditto ditto	2,039	
				Cutch ditto ditto	1,184	
				All others ditto ditto	6,138	
18	559	Hilly, but no steep slopes ... *Soil.*—Good loam to shales on the slopes.	Old pônzos without teak cover about half the compartment, the remainder is good teak forest; moist near the main stream to dry on the hills.	Girdled teak trees	31	There is a *kyauk-myaung* in the main stream close to where the Karen area boundary crosses it. Timber can be floated through but it might be widened with advantage.
				Unsound teak above 1 foot diameter	35	
				Ditto below ditto	18	
				Sound teak 2½ feet diameter and above	175	
				Ditto 2 to 2½ feet diameter	80	
				Ditto 1½ to 2 feet ditto	120	
				Ditto 1 to 1½ feet ditto	518	
				Ditto below 1 foot ditto, dominant ...	1,141	
				Ditto ditto ditto, suppressed ...	885	
				Pyinma trees 1 foot diameter and above ...	45	
				Pyingado ditto ditto	660	
				All others ditto ditto	3,167	
19	718	Similar to 18	Very moist near the streams to dry on the ridges, especially the ridge along which the Karen area boundary runs. The greater part of the compartment contains good teak forest; there are old pônzos scattered about on the lower slopes.	Unsound teak above 1 foot diameter	120	
				Ditto below ditto	54	
				Sound teak 2½ feet diameter and above	156	
				Ditto 2 to 2½ feet diameter	150	
				Ditto 1½ to 2 feet ditto	354	
				Ditto 1 to 1½ feet ditto	1,992	
				Ditto below 1 foot ditto, dominant ...	1,550	
				Ditto ditto ditto, suppressed...	2,016	
				Pyinma trees 1 foot diameter and above	204	
				Pyingado ditto ditto	1,986	
				Cutch ditto ditto	54	
				All others ditto ditto	10,980	

20	956	Similar to 18	Very similar to 19. There is splendid teak on the Taung-Gamôn watershed. About one-third of the compartment is pônzo.	Girdled teak trees	14	The cutting of creepers is urgently necessary, the trees on the Taung-Gamôn watershed being especially covered with them.
				Unsound teak above 1 foot diameter	147	
				Ditto below ditto	260	
				Sound teak 2½ feet diameter and above	260	
				Ditto 2 to 2½ feet diameter	338	
				Ditto 1½ to 2 feet ditto	724	
				Ditto 1 to 1½ feet ditto	2.356	
				Ditto below 1 foot ditto, dominant ...	2,116	
				Ditto ditto ditto, suppressed ...	1,808	
				Pyinma trees 1 foot diameter and above	88	
				Pyingado ditto ditto	1,582	
				All others ditto ditto	6,776	
21	572	Similar to 20	Similar to 20. There is more pônzo in the compartment.	Unsound teak above 1 foot diameter	99	
				Ditto below ditto	198	
				Sound teak 2½ feet diameter and above ...	153	
				Ditto 2 to 2½ feet diameter	189	
				Ditto 1½ to 2 feet diameter	459	
				Ditto 1 to 1½ feet ditto	1,116	
				Dilto below 1 foot diameter, dominant ...	1,188	
				Ditto ditto ditto, suppressed ...	1,611	
				Pyinma trees 1 foot diameter and above ...	18	
				Pyingado ditto ditto	1,746	
				All others ditto ditto	5,085	
22	739	Similar to 20	Similar to 20. More pônzo. Teak most plentiful in the north-east.	Girdled teak trees	9	
				Unsound teak above 1 foot diameter	87	
				Ditto below ditto	32	
				Sound teak 2½ feet diameter and above	50	
				Ditto 2 to 2½ feet diameter	161	
				Ditto 1½ to 2 feet ditto	225	
				Ditto 1 to 1½ feet ditto	800	
				Ditto below 1 foot ditto, dominant ...	759	
				Ditto ditto ditto, suppressed ...	740	
				Pyinma trees 1 foot diameter and above	13	
				Pyingado ditto ditto	795	
				All others ditto ditto	2,790	
23	1,010	Similar to 18	Similar to 20. About three-fourths of the compartment is pônzo, the remainder good teak forest.	Unsound teak above 1 foot diameter	24	Creeper-cutting very necessary.
				Ditto below ditto	21	
				Sound teak 2½ feet diameter and above	30	
				Ditto 2 to 2½ feet diameter	33	
				Ditto 1½ to 2 feet ditto	228	
				Ditto 1 to 1½ feet ditto	717	
				Ditto below 1 foot ditto	534	
				Ditto ditto ditto	471	
				Pyinma trees 1 foot diameter and above	51	
				Pyingado ditto ditto	597	
				All others ditto ditto	8,000	

DESCRIPTION OF COMPARTMENTS IN TAUNG CHAUNG (KAREN AREA) BLOCK, GAMÓN WORKING CIRCLE—(concluded).

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	Number.	
24	867	Undulating, rising to low hills in the north-east and east. *Soil.*—Mostly laterite, loam on the hilly ground.	There is a little teak forest mixed with pônzos in the north-east and east of the compartment, the remainder is indaing.	Unsound teak above 1 foot diameter	9	
				Ditto below ditto	8	
				Sound teak 2½ feet diameter and above	3	
				Ditto 2 to 2½ feet diameter	6	
				Ditto 1½ to 2 feet ditto	12	
				Ditto 1 to 1½ feet ditto	48	
				Ditto below 1 foot ditto, dominant .	105	
				Ditto ditto ditto, suppressed ...	318	
				Pyinma trees 1 foot diameter and above ...	90	
				Pyingado ditto ditto	750	
				Ingyin and thitya ditto ditto	2,010	
				In ditto ditto	2,460	
				All others ditto ditto	5,409	

APPENDIX II.

RECORD OF VALUATION SURVEYS, GAMÓN WORKING CIRCLE, 1888.

Name of block.	No. of compartment.	Area in acres.	Girdled or dead teak trees.	Unsound green teak trees.		Sound green teak trees.						Trees other than teak, 1 foot in diameter and above.						
				Above 1 foot diameter.	Below 1 foot diameter.	2½ feet diameter and above.	2 to 2½ feet diameter.	1½ to 2 feet diameter.	1 to 1½ feet diameter.	Below 1 foot diameter, dominant.	Below 1 foot diameter, suppressed.	Pyinma.	Pynkado	Kanyin.	Ingyin or thiya.	In.	Sha.	All others
Myaung	1 I	113	...	7	3	5	32	84	132	54	108	47	286	...	12 84	...	1	1,704
	2 I	26	...	14	12	22	33	38	73	61	142	2	177	...	...	...	...	331
	II	38	...	1	2	1	20	45	54	17	46	19	120	...	...	...	...	533
	3 I	44	...	14	11	5	21	49	48	44	84	9	108	...	...	...	...	333
	II	48	1† 1	15	16	3	19	56	91	60	94	32	189	...	...	...	...	393
	4 I	38	...	5	1	6	10	35	58	20	45	12	98	...	2	...	...	345
	II	45	1†	25	7	27	65	95	157	104	228	9	171	...	28	...	...	557
	5 I	62	1†	9	7	9	15	48	121	105	67	2	108	...	...	...	...	530
	6 I	45	2	...	3	6	7	45	99	119	146	4	90	...	...	...	...	518
	7 I	49	...	5	2	4	6	10	44	31	68	3	89	50	1 1	...	...	378
	II	42	...	6	3	17	9	16	28	24	102	...	119	...	...	...	...	313
	8 I	45	...	1	...	...	...	...	1	...	2	2	30	...	...	...	...	227
	9 I	38	2† 11	16	2	31	47	66	132	29	151	2	95	...	1	...	...	343
	II	38	6	22	7	49	44	42	49	76	59	6	142	9	2	2	...	357
	III	48	3† 14	42	9	33	34	45	52	92	118	7	142	...	...	...	...	681
	10 I	36	6 3†	17	3	22	29	50	40	53	95	17	87	...	...	...	...	458
	II	41	11	14	1	33	60	93	118	45	117	6	138	...	5	...	...	367
	III	32	3* 8	8	4	16	15	26	32	57	19	6	69	...	...	...	...	247
	11 I	32	10 1† 2*	13	2	40	26	33	26	33	34	13	71	...	...	...	...	325
	II	38	2† 10	14	11	12	44	68	83	123	76	1	100	...	...	...	...	346

East Gamon.	12	I	57	3* 2† 19	76	14	33	70	116	93	180	197	18	162	...	21	...	41	758
	Total	...	955	122	319	123	374	606	1,060	1,581	1,387	1,998	217	2,591	59	107	2	42	10,544
	13	I	33	3*	22	6	15	39	74	94	72	106	5	90	...	31	...	...	342
		II	32	...	2	...	5	1	6	9	21	20	9	108	16	...	...	...	377
		III	25	6*	8	4	5	4	37	41	25	36	2	8	...	...	...	37	314
	14	I	44	1*	2	...	4	19	26	30	51	52	20	63	...	...	...	...	682
		II	41	1* 3	15	10	20	48	62	82	45	82	18	127	...	...	...	...	489
	15	I	53	3*	13	8	8	32	63	87	115	73	15	100	...	21	...	...	463
		II	41	5*	24	1	40	38	56	61	41	31	3	98	...	6	...	...	349
		III	41	...	7	6	12	29	61	75	74	49	7	73	...	34	...	...	375
	16	I	53	2† 1	25	6	23	64	94	130	89	131	39	174	...	24	...	...	560
		II	57	5*	28	6	21	39	74	114	113	94	20	136	...	46 4	...	...	829
	17	I	40	1†	12	6	23	53	72	98	47	104	40	209	...	...	...	...	472
		II	36	3†	28	18	23	54	73	118	64	166	31	130	...	...	...	...	541
	18	I	37	2 2†	25	3	58	29	35	36	35	59	11	133	...	...	...	...	343
		II	32	5*	13	7	39	52	67	85	66	116	8	148	...	1 8	...	...	321
	19	I	39	7† 4	5	5	7	12	31	53	55	24	13	82	...	9 3	...	...	400
	20	I	54	1* 3*	11	3	19	24	36	36	36	17	6	101	...	...	...	...	400
		II	64	1† 5	12	6	28	37	68	94	109	52	22	204	...	10	...	...	814
	21	I	50	3* 2	41	32	25	65	105	185	101	140	14	182	...	8 62	...	14	447
		II	61	4† 2	12	9	29	53	117	132	66	165	18	186	...	11	...	...	531
	22	I	60	2*	25	6	31	54	58	72	65	106	2	293	...	...	...	...	551
	23	I	55	...	8	3	17	15	23	20	37	53	4	93	...	...	...	...	...
	24	I	49	3 1†	10	2	15	28	34	79	33	51	20	133	...	...	...	...	664
	Carried over	...	997	81	348	147	517	789	1,272	1,731	1,410	1,727	327	2,971	16	273	...	51	10,214

* *Natthat.* | † Hollow or bad.

RECORD OF VALUATION SURVEYS, GAMÓN WORKING CIRCLE, 1888—continued.

Name of block.	No. of compartment.	Area in acres.	Girdled or dead teak trees.	Unsound green teak trees.		Sound green teak trees.						Trees other than teak, 1 foot in diameter and above.						
				Above 1 foot diameter.	Below 1 foot diameter.	2½ feet diameter and above.	2 to 2½ feet diameter.	1½ to 2 feet diameter.	1 to 1½ feet diameter.	Below 1 foot diameter, dominant.	Below 1 foot diameter, suppressed.	Pyinma.	Pyinkado.	Kanyin.	Ingyin or thiya.	In.	Sha.	All others.
Brought forward		997	81	348	147	517	789	1,272	1,731	1,410	1,727	327	2,971	16	278	...	51	10,214
East Gamón.	25 I	52	9*	82	14	22	43	100	166	142	125	19	215	...	18	...	...	1,060
			3												45	...		
	26 I	37	4*	26	16	26	37	68	118	101	50	19	155	...	32	...	...	610
			2												34	...		
	II	32	1	7	...	18	9	13	16	19	21	33	104	...	6	...	...	...
	27 I	63	3	23	16	13	14	43	103	93	100	18	134	...	...	...	...	...
	28 I	44	3	17	16	14	23	48	89	60	100	8	109	...	61	...	...	...
			2†															
	29 I	34	1*	8	2	5	22	23	34	35	64	1	58	11	...	...	...	...
			4															
	30 I	56	2*	21	4	23	16	26	62	48	116	14	88	...	...	...	...	...
			3															
			5†															
	31 I	33	...	13	12	7	24	42	82	52	66	2	93	...	68	...	...	...
															196			
	32 I	41	4*	8	5	40	82	102	115	77	96	5	184	...	17	...	...	...
			2†												22			
			3															
	33 I	50	5*	17	7	32	41	83	57	22	60	9	93	...	...	...	...	...
			1															
	34 I	61	6*	22	14	43	75	96	102	102	128	15	262	...	27	...	...	...
			11												129			
	35 I	35	2*	5	1	29	41	13	11	10	22	...	73	...	...	...	...	...
			1†															
	II	26	...	25	5	24	33	82	80	33	74	3	90	...	3	...	...	...
	36 I	31	1*	11	8	23	46	80	96	63	84	5	138	...	18	...	...	...
			2												20			
	37 I	45	1†	26	1	20	28	24	15	14	16	3	141	...	...	...	...	...
			1*															
	II	33	1*	25	7	14	46	81	96	59	77	10	144	...	...	20	...	...
																28		

North Gamôn.	38	I	42	1†	13	5	9	27	71	71	49	52	13	288	...	2 7	...	...	...
		II	67	4*	23	5	26	42	75	61	43	74	12	198	...	...	...	157	...
	39	I	27	4*	14	15	5	19	22	24	53	302	...	34	...	5 17	...	...	...
		II	26	1†	35	17	6	25	57	87	50	78	1	55	...	94 20	...	...	...
	40	I	61	1*	18	8	8	18	36	59	51	42	7	165	...	...	...	230	654
	41	I	36	2*	16	16	30	25	36	68	37	100	4	109	...	21	...	109	...
		II	18	2*	8	3	9	11	18	33	9	139	8	29	...	3	...	...	...
	42	I	34	...	13	2	3	11	38	17	26	35	5	60	...	...	133	...	506
Total		...	1,981	179	774	346	1,016	1,547	2,549	3,393	2,667	3,748	541	6,195	27	1,192	133	547	13,044
	43	I	41	...	...	...	...	...	1	3	3	4	1	2	...	...	...	...	12
	44	I	52	1	11	1	10	17	20	39	12	24	2	22	3	4	...	...	152
	45	I	56	(a)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		II	31	...	...	...	...	...	2	18	6	13	...	22	...	...	...	...	340
	46	I	27	...	...	...	1	...	5	5	45	...	27	...	...	...	...	...	106
	47	I	44	1* 1	4	3	2	13	25	83	82	89	...	77	...	...	...	...	316
		II	36	2†	1	4	...	3	1	20	19	21	...	19	...	...	...	...	83
		III	23	...	8	3	8	21	31	68	40	97	4	40	...	...	...	...	237
	48	I	44	2* 5	15	6	8	31	53	86	62	97	2	73	...	...	...	...	312
		II	32	5* 2†	6	9	19	15	31	80	70	109	4	67	...	...	...	...	308
	49	I	50	4 1*	21	31	16	38	71	138	204	132	2	103	...	...	...	...	575
		II	60	6* 2	5	3	14	24	57	121	70	76	5	86	...	...	...	...	414
	50	I	(b) 16	2*	7	10	6	17	37	47	59	40	2	85	...	...	...	...	188
	51	I	(b) 103	2 1†	21	9	9	24	75	375	314	437	4	215	...	...	...	4	730
	52	I	(b) 57	...	17	38	22	57	94	200	231	225	1	170	...	38 62	...	...	648
		II	38	3 1†	10	19	18	34	65	125	58	136	1	82	...	...	...	...	...
	53	I	55	3* 5	9	5	12	20	71	94	95	149	...	74	...	...	...	...	427
	54	I	(b) 50	1†	2	2	2	1	1	15	12	25	...	11	...	...	...	...	110
	55	I	(b) 80	6*	9	7	7	18	36	81	30	100	23	111	...	...	...	...	...
		II	33	8† 1	19	6	11	21	43	50	156	225	29	108	...	...	...	3	...
Carried over		...	908	60	165	156	165	354	719	1,648	1,568	1,999	107	1,367	3	104	...	7	4,958

* *Nathat.* | † Hollow or bad. | (a) All pônzo, no trees. (b) Karen area.

RECORD OF VALUATION SURVEYS, GAMÔN WORKING CIRCLE, 1888—continued.

Name of block.	No. of compartment.			Area in acres.	Girdled or dead teak trees.	Unsound green teak trees.		Sound green teak trees						Trees other than teak, 1 foot in diameter and above.					
						Above 1 foot diameter.	Below 1 foot diameter.	2½ feet diameter and above.	2 to 2½ feet diameter.	1½ to 2 feet diameter.	1 to 1½ feet diameter.	Below 1 foot diameter, dominant.	Below 1 foot diameter, suppressed.	Pyinma.	Pyinkado.	Kanyin.	Ingyin or thiya.	In.	Sha.	All others.
Brought forward				908	60	165	156	165	354	719	1,648	1,568	1,999	107	1,367	3	104	..	7	4,958
North Gamôn—*concluded.*	56	I	(*b*)	44	7† 2* 5	14	6	15	28	67	61	58	101	7	192	...	...	...	...	...
		II		34	4* 6* 1	8	3	15	18	15	18	27	31	6	95	...	...	...	...	...
	57	I	(*b*)	32	4	6	4	5	7	26	57	27	160	...	52	...	...	...	...	537
		II		43	2*	3	3	5	6	12	17	10	25	2	112	2	...	...	...	374
	58	I	(*b*)	38	3† 6	25	7	18	19	52	63	44	206	14	134	...	...	...	...	446
		II		67	15* 11	15	7	28	58	132	188	94	170	6	148	...	...	...	...	597
	59	I		39	...	12	8	13	33	54	62	56	60	1	243	...	...	...	...	788
	60	I		111	4†	27	21	21	20	90	378	358	414	10	260	...	..	...	...	1,318
		II		42	...	2	3	9	14	30	54	43	39	1	53	...	...	...	...	314
	61	I		45	...	...	...	...	...	...	...	...	...	4	241	...	4	...	...	791
		II		51	1* 1	8	2	9	21	24	34	90	31	6	191	...	...	...	54	646
	62	I		42	...	...	...	...	...	...	...	...	...	1	47	...	2 11	522	...	161
		II		38	...	...	...	1	2	4	4	6	1	4	80	...	53 15	152	41	525
	63	I		66	...	...	...	...	...	...	...	6	16	...	10	17	103 168	437	6	329
		II		38	...	...	...	...	...	...	...	...	...	...	...	...	103 147	308	...	148
	64	I		64	...	18	4	1	3	6	24	50	24	8	21	...	68 130	...	18	1,454(*c*)
		II		67	5	31	8	6	25	50	133	126	191	9	75	...	94	724	23	1,078
	65	I		51	...	9	3	6	8	8	20	23	55	8	47	...	24 37	455	6	471
		II		37	...	7	...	2	5	20	43	20	23	16	29	...	1	...	101	1,179
Total	...			1,857	137	350	235	314	616	1,309	2,804	2,606	3,546	200	3,397	22	1,064	2,598	256	15,214

South Gamon.	66	I	47	...	...	...	2	...	...	...	2	6	33	159	8	5 54	413	...	982
		II	47	...	...	...	...	...	...	...	...	...	4	118	5	104 69	284	...	483
	67	I	59	...	1	2	6	8	9	14	8	42	57	13	36	...	5	6	1,607
	68	I	40	1	4	3	9	32	44	68	29	14	11	35	...	...	...	100	299
		II	54	...	...	...	...	...	...	...	...	...	24	24	2	3	1	...	818
	69	I	48	2*	8	1	7	8	17	47	15	33	29	157	...	...	...	...	675
		II	45	5	10	4	11	25	42	65	78	99	5	121	...	...	...	...	541
	70	I	22	...	2	...	...	3	2	3	...	4	18	48	...	...	...	...	610
		II	67	3	37	3	15	24	111	143	78	77	53	156	...	2 6	5	2	962
	71	I	37	2	19	10	2	22	34	76	80	96	16	67	...	4	...	...	589
	72	I	56	...	...	...	...	...	...	...	...	...	61	409	...	6 2	...	...	1,424
		II	46	...	1	2	2	3	9	18	22	31	13	206	3	87	4	...	653
	73	I	59	...	16	1	2	14	31	124	44	24	19	213	...	...	...	...	643
		II	45	3*	5	3	11	12	19	49	20	11	114	206	...	...	...	...	882
	74	I	55	1† 1	13	8	9	15	87	225	120	108	8	185	...	...	...	...	586
		II	59	4	6	7	4	9	22	124	37	53	2	126	...	...	...	...	616
	75	I	46	...	14	4	21	28	67	237	115	64	17	132	...	...	...	...	631
		II	48	...	3	2	1	10	23	134	44	53	5	97	...	3 4	2	...	783
	76	I	61	11* 19	15	5	32	34	42	71	73	38	3	133	3	...	...	...	634
	77	I	48	2* 17	20	5	52	66	65	33	28	53	2	253	...	...	...	...	685
		II	54	3† 28	14	2	47	85	52	95	15	26	3	120	...	...	...	...	495
	78	I	58	...	3	...	2	5	17	34	26	28	3	139	...	...	...	...	709
	79	I	59	1	6	1	4	8	12	59	41	56	4	16	10	...	...	...	307
		II	50	5* 1	7	3	8	18	18	33	18	14	4	68	...	...	...	...	359
	80	I	66	8* 1	20	8	19	55	100	402	94	151	29	337	...	...	...	...	1,853
	81	I	77	...	10	5	9	9	27	102	72	75	25	174	...	110 41	153	...	516
Total	...		3,163	113	234	79	285	437	850	2,141	1,039	1,156	567	3,705	67	450	872	108	18,597

* *Natthat* | † Hollow or bad. | (*b*) Karen area. | (*c*) Includes In trees.

RECORD OF VALUATION SURVEYS, GAMÔN WORKING CIRCLE, 1888—concluded.

Name of block.	No. of compartment.	Area in acres.	Girdled or dead teak trees.	Unsound green teak trees.		Sound green teak trees.						Trees other than teak, 1 foot in diameter and above.						
				Above 1 foot diameter.	Below 1 foot diameter.	2½ feet diameter and above.	2 to 2½ feet diameter.	1½ to 2 feet diameter.	1 to 1½ feet diameter.	Below 1 foot diameter, dominant.	Below 1 foot diameter, suppressed.	Pyinma.	Pyinkado.	Kanyin.	Ingyin or thiya.	In.	Sha.	All others.
Taung Chaung.	1 I	53	4*	15	4	17	13	30	42	80	114	6	147	...	...	...	24	822
	II	38	1*	14	6	17	24	31	76	55	37	2	63	...	...	...	115	888
	2 I	42	...	6	3	6	13	30	81	34	55	7	66	...	...	...	280	500
	II	30	...	4	...	5	6	14	28	2	4	2	24	...	...	...	1	181
																	2	
	3 I	36	3*	21	4	24	29	59	72	21	65	11	137	...	....	...	68	644
	II	32	...	4	2	19	18	36	44	9	34	9	103	...	...	...	...	454
	III	46	...	2	...	5	5	10	23	20	20	...	96	...	5	...	...	427
	4 I	52	3*	4	2	6	8	11	11	16	15	6	42	5	...	...	66	277
	II	42	3*	28	17	35	22	96	104	27	426	32	189	...	38	...	...	880
	5 I	18	...	13	2	5	19	30	42	23	35	1	111	...	7	...	...	339
	6 I	33	2*	15	11	14	21	30	55	71	60	6	119	...	...	...	56	450
	7 I	68	...	10	2	7	15	35	124	142	347	19	183	...	...	...	87	661
	8 I	40	1†	7	3	22	32	38	55	69	169	16	206	...	...	...	103	569
	II	38	...	...	...	...	...	1	4	8	7	1	41	...	...	...	118	298
	9 I	39	2*	3	3	6	5	11	21	18	33	11	123	...	...	...	163	662
	II	31	4*	12	6	13	12	16	31	86	170	16	84	...	...	...	88	325
	10 I	45	3*	13	2	11	50	62	157	19	83	12	138	...	10	...	34	892
	11 I	53	...	15	11	30	60	92	113	112	161	33	156	...	...	...	237	897
	II	43	...	7	...	10	15	38	72	127	254	5	138	...	...	...	62	449
	12 I	77	...	4	2	17	21	45	168	112	181	18	95	...	3	...	197	1,125
	13 I	55	2*	5	3	8	11	32	36	14	16	11	140	...	...	...	52	470
	II	41	3*	4	3	6	21	51	222	77	327	2	93	...	...	...	...	504
	14 I	32	...	3	2	...	5	11	17	22	46	20	117	...	...	...	171	495
	15 I	40	5	8	2	20	29	32	67	109	185	6	112	...	...	...	7	499
	16 I	36	1*	2	3	3	8	10	25	37	31	...	56	...	...	...	149	429
	II	40	...	12	11	10	10	26	95	174	85	8	177	...	...	...	69	549
	17 I	32	3	11	5	13	17	31	38	50	78	29	150	...	...	...	63	325
	II	38	3*	5	4	9	11	11	16	16	69	7	67	...	...	...	63	328
	18 I	41	1	7	3	14	10	21	96	98	192	5	85	...	...	...	...	458
	II	40	5* 8	3	2	36	13	13	52	228	61	8	104	...	...	...	...	447

19	I	45	...	12	4	16	10	18	121	67	136	13	148	...	...	...	...		874
	II	37	...	5	2	6	9	25	106	126	117	7	94	...	...	...	9		508
	III	37	...	3	3	4	6	16	105	57	83	4	89	...	...	...	...		448
20	I	41	...	8	3	19	37	67	204	64	75	13	163	...	...	...	...		729
	II	55	4* 3	16	36	31	27	56	213	286	216	3	132	...	...	...	...		502
	III	34	...	6	14	3	5	23	64	82	78	2	28	...	...	...	...		152
21	I	31	...	11	22	17	21	51	124	132	179	2	194	...	...	...	...		565
22	I	36	2	8	4	7	15	17	101	97	38	2	56	...	...	...	...		254
	II	44	...	11	3	6	70	32	73	68	123	1	117	...	...	...	...		342
23	I	45	...	4	3	4	8	24	113	84	53	5	105	...	...	...	...		365
	II	41	...	4	4	6	3	52	126	94	104	12	94	...	...	...	...		346
24	I	27	...	3	1	1	2	4	16	35	106	3	25	...	50 17	8 2	...		180
Total.		1,699	66	348	217	508	742	1,338	3,353	3,078	4,668	426	34,607	5	180	10	2,284		20,919

* *Nathat* | † Hollow or bad. | (*b*) Karen area.

APPENDIX III.

PRESSLER'S GAUGE READINGS IN THE GAMÔN WORKING CIRCLE.

Compartment No.	Girth.	Diameter, increase. Inches.	Years.	Average.	Remarks
	Ft. in.				*Trees under 12 inches in diameter.*
22	1 3	2·8	30	·152	On ridge. Dry.
73	1 4	1·2	12	·200	In plantation.
42	1 5	1·9	18	·226	On east slope in thaikwa.
		2·2	18		
22	1 6	3·0	64	·092	Suppressed tree. Moist.
38	1 7	2·6	18	·254	On flat ground in dense thaikwa.
		2·0	18		
27	1 7	2·6	22	·270	Dominant tree. Myin and tinwa.
		2·3	15		
11	1 7	1·9	25	·152	On edge of steep slope. Dry.
21	1 8	2·8	31	·168	Stunted tree in very dry forest.
		2·8	35		
18	1 9	2·7	40	·120	Very dry forest. Scanty myinwa.
		1·7	33		
14	1 10	2·5	21	·250	Dominant tree. Flowering myin.
		2·5	19		
20	1 11	2·6	49	·106	On south-west slope. Flowering myin and tin.
		2·7	50		
2	2 0	1·8	31	·116	On low hill. Laterite soil. Tinwa.
		2·0	29		
11	2 0	2·3	30	·144	On high hill. Myinwa.
		2·4	33		
		2·0	28		
11	2 1	2·1	20	·170	On edge of steep slope. Dry.
		2·2	18		
4	2 4	2·6	31	·194	On main Yoma ridge. Kyathaung.
		2·2	38		
4	2 6	2·0	56	·088	On a ridge in moist jungle.
		2·6	39		
9	2 6	2·8	20	·182	On exposed ridge. Very dry.
		2·1	35		
6	2 6	2·8	21	·174	On east slope. Thaikwa rocky soil.
		2·5	18		
1	2 8	2·3	19	·266	On steep north slope. Flowering myinwa.
		2·4	17		Very rocky soil.
		2·8	26		
38	2 10	2·9	28	·176	On gentle east slope. Very dry forest.
		3·0	43		
		1·9	26		
2	2 11	2·1	42	·116	On low hill. Laterite soil. Tinwa.
		2·0	34		
		2·3	30		
37	2 11	2·8	42	·140	At source of small feeder. Dry forest.
		2·5	40		
69	2 11	1·9	27	·148	On low hill. Kyathaung. Sandy soil.
		2·5	26		
		2·0	8		
4	3 1	2·0	17	·292	On low ground. In group of young trees.
		2·0	16		
		2·3	27		
31	3 1	2·4	30	·164	Dominant tree on ridge. Dry forest.
		2 7	20		
10	3 1	2·0	7	·336	On north-west slope. Dry forest. Sandy shales.
		2·4	15		
Average diameter increase per annum				·180	
Average age of a tree 12 inches in diameter = 66 years.					
					Trees from 12 to 18 inches in diameter.
		2 4	40		
78	3 2	2 3	34	·143	On south ridge. Moist. Rich loam.
		2·3	29		
		2·5	63		
22	3 4	2·5	50	·088	On edge of steep slope. Moist.
		2·1	21		
64	3 4	2·2	18	·136	Close to stream in mixed jungle.
		2·0	53		
		1·4	32		
76	3 5	2·7	43	·120	On ridge. Kyathaung.
		1·5	38		

PRESSLER'S GAUGE-READINGS IN THE GAMÔN WORKING CIRCLE—contd.

Compartment No.	Girth.	Diameter, increase. Inches.	Years.	Average.	Remarks.
	Ft. in.	*Trees from 12 to 18 inches in diameter*—(concluded).			
24	3 7	2·0	36		
		2·3	28	·152	On east slope. Dry myinwa.
		2·3	27		
		2·8	30		
32	3 7	2·5	17	·172	On low slope. Fairly moist, shales.
		2·6	44		
		2·4	36		
13	3 8	2·3	34	·134	On south slope. Dry. Flowering myinwa.
		2·5	10		
64	3 8	2·4	7	·486	On undulating ground, edge of indaing.
		2·4	13		
		2·2	25		
10	3 9	2·0	54	·084	At foot of steep slope. Dry.
		2·0	67		
		2·0	17		
20	3 11	2·1	17	·224	On ridge ; west exposure. Moist.
		2·3	23		
		2·7	17		
11	3 11	2·0	14	·214	On edge of very steep slope. Very dry.
		2·7	38		
		2·4	22		
11	3 11	2·3	30	·180	On high hill. Myin. Sandy shales.
		2·5	24		
		2·0	40		
3	4 0	2·2	49	·102	On low ridge. Flowering myin.
		2·2	36		
		1·9	42		
16	4 0	1·9	57	·072	On very steep south-east slope. Dry.
		2·0	63		
		1·5	30		
12	4 2	2·0	18	·144	On very dry ridge.
		1·2	30		
13	4 2	1·7	15	·138	On steep south slope Myinwa.
		2·2	28		
		2·2	17		
11	4 2	2·6	17	·280	On spur. Moist. Kyathaung
		2·5	18		
		1·9	34		
13	4 3	2·2	28	·120	On gentle east slope. Very moist.
		2·3	43		
		2·4	48		
42	4 5	2·4	48	·098	On gentle east slope. Thaikwa
		2·5	50		
		2·6	18		
6	4 5	2·2	26	·234	Close to stream. Thaik and myin.
		2·6	19		
		3·0	27		
37	4 4	2·7	31	·202	On flat knoll. Dry. Myin.
		2·8	26		
		2·3	38		
9	4 6	2·3	75	·084	On steep west slope. Dry.
		2·4	79		
14	4 5	2·2	44	·080	On gentle east slope. Kyathaung.
		2·4	46		
		1·8	39		
10	4 6	2·6	17	·186	On dry ridge ; west exposure.
		2·5	18		
		1·9	17		
4	4 7	2·0	16	·228	On a ridge in moist forest.
		2·3	21		
		2·3	12		
66	4 7	2·3	21	·254	Close to stream, dense wapyu.
		2·3	21		
		2·0	27		
5	4 8	2·0	19	·194	On top of low plateau. Kyathaung.
		2·3	19		
		2·6	42		
53	4 8	2·5	24	·162	On west slope. Moist.
		2·4	26		
		2 6	18		
20	4 8	2·6	21	·280	At source of feeder Kyathaung and tinwa.
		2·8	18		
Average diameter increase per annum				·171	
Average age of a tree 18 inches in diameter = 66 + 35 = 101 years.					

PRESSLER'S GAUGE READINGS IN THE GAMON WORKING CIRCLE—contd.

Compartment No.	Girth.	Diameter; increase. Inches.	Years.	Average.	Remarks.
	Ft. in.		*Trees from 18 to 24 inches in diameter.*		
18	4 10	2·0 2·2 2·8	42 48 88	·078	On ridge in group of big trees. Tin and kyathaung.
25	4 10	2·6 2·7 2·4	55 93 82	·066	On top of hill, very dry forest.
52	4 11	2·7 2·6 2·7	45 45 49	·114	On ridge. Moist forest.
35	5 0	2·8 3·0 3·0	87 56 56	·088	On ridge. Dry forest.
12	5 0	2·5 2·4 2·8	28 17 37	·186	Close to stream. Thaikwa.
4	5 0	2·4 2·5 1·8 1·1	68 69 53 33	·068	On moderate west slope. Very dry.
11	5 2	2·4 2·9 2·9	27 32 20	·186	On ridge. Kyathaung.
21	5 2	2·2 2·3 2·6	72 66 49	·074	On ridge. Kyathaung. Dry.
25	5 4	2·8 2·7 2·5	58 44 17	·132	Near stream. Kyathaung and tin.
65	5 5	2·6 2·8 2·6	31 30 27	·176	Near stream, close to indaing.
2	5 7	1·6 2·4 2·4	20 24 33	·166	Gentle south-west slope. Kyathaung
4	5 7	2·1 1·9 2·0	31 33 31	·126	On south-east slope. Moist.
69	5 7	2·7 2·4 2·4	28 12 34	·196	At source of stream. Kyathaung.
14	5 8	2·3 2·0 2·3	18 20 27	·220	On flat ground near main stream. Thaik and tinwa.
16	5 8	2·4 2·2 2·3	28 28 20	·194	On low ridge. Dry forest. Myin.
9	5 9	2·0 2·3 2·2	34 61 72	·076	On Minhla-Myaung watershed. Dry
12	5 9	2·3 2·3 2·2	87 79 59	·060	Close to stream, Dry. Shales.
71	5 9	2·6 2·4 2·5	32 28 29	·168	Close to stream. Thaikwa. Lateritic gravelly soil
71	5 10	2·3 2·3 2·3	16 32 19	·206	On low hill. Sandy loam.
13	6 0	1·6 2·6 2·5	30 31 67	·100	On hill. Very dry forest.
16	6 0	1·8 1·7 2·6	46 18 47	·108	On north slope, Fairly moist. Kyathaung.
16	6 0	2·3 1·6 2·4	52 41 50	·088	Gentle west slope. Kyathaung.
1	6 2	2·1 2·1	21 48	·120	Solitary tree in indaing.
Average diameter increase per annum Average age of tree 24 inches in diameter = 101 + 46 = 147 years.				·180	

PRESSLER'S GAUGE READINGS IN THE GAMÔN WORKING CIRCLE—concld.

Compartment No.	Girth	Diameter, increase. Inches.	Years.	Average.	Remarks.
	Ft. in.				
			Trees over 24 inches in diameter.		
9	6 4	1·6 2·1 2·4	51 48 44	·088	At source of small feeder. Moist.
37	6 4	2·8 2·9 2·6	84 80 63	·092	On ridge Dry forest.
3	6 5	2·3 1 9 2·8	35 17 42	·184	On low ground near stream. No bamboo.
40	6 5	2·6 2·4 2·6	65 60 60	·082	On ridge. Thaikwa
59	6 5	2·5 2·8 2·7	24 21 25	·222	On low hill. Moist.
52	6 7	2 7 2·6 2·7	45 45 49	·114	On ridge. Moist.
53	6 7	2·6 3·0 2 7	28 38 44	·150	On ridge. Moist.
35	6 9	2·8 2·9 3·0	67 64 74	·084	On easy south slope Kyathaung.
76	6 10	2·4 2·4 2·4 2·4	48 46 68 48	·090	On ridge covered with sandstone blocks. Kyathaung.
8	7 0	2·6 2·6 2·2	46 43 39	·110	On low ground. No bamboo. Rich loam.
32	7 0	2·6 2·3 2·7 2·8	63 71 80 54	·076	In a group of big trees. Moist forest.
6	7 3	2·5 2·5 2·6 2·9	42 24 30 72	·124	On high ridge. Dry. Shales.
10	7 4	2·1 2·5 2·3	33 36 31	·092	On easy north slope. Dry. Sandy loam
20	7 4	2·5 2·7 2·5	32 33 50	·180	On ridge. Kyathaung.
9	7 7	2·1 2·2 2 1	23 28 25	·168	On north slope. Flowering myinwa.
10	7 10	2·6 2 3 2·8 3·0	51 32 34 38	·136	On rather steep north slope to stream. Thaik and tinwa.
27	7 11	2·7 2·7 2·6	26 50 47	·128	On moderate south-east slope. Fairly dry. Myin and tinwa.
20	8 7	2 6 2·6 2·7	79 80 93	·062	On edge of steep east slope. Fairly moist.
Average diameter increase per annum				·118	
Average age of tree 30 inches in diameter = 147 + 50 = 197 years.					

STATEMENT SHOWING THE RESULTS OF COUNTING OF ANNUAL RINGS ON STUMPS AND LOGS IN THE GAMÔN WORKING CIRCLE.

Girth.		Age.	Remarks.
Ft.	in.		
1	2	15	Young tree felled in plantation.
1	4	16	Young tree felled in plantation.
1	6	19	Young tree felled in plantation.
1	6	26	Young tree felled in mixed In jungle.
1	9	18	Young tree felled in mixed In jungle.
1	11	28	Young tree felled in mixed In jungle.
2	0	16	Young tree felled in dry forest.
2	4	22	Young tree felled in dry forest.
2	8	30	Anlè tree on ridge.
2	8	38	Young tree felled in mixed In jungle.
2	10	120	Stump of anlè tree on very dry ridge.
3	10	158	Stump of anlè tree on very dry ridge.
4	4	148	Log in stream.
5	4	150	Log in stream.
5	9	184	Log in stream.
5	9	122	Log in stream.
5	10	140	Log in stream.
5	10	132	Log in stream.
5	10	185	Log in stream.
5	11	146	Log in stream.
6	4	285	Log in stream.
6	5	200	Log in stream.
6	6	248	Log in stream.
6	7	250	Log in stream.
6	7	212	Log in stream.
6	8	210	Log in stream.
6	8	158	Log in stream.
6	8	264	Log in stream.
6	8	111	Log in stream.
6	7	224	Log in stream.
6	9	244	Log in stream.
6	9	195	Log in stream.
6	10	140	Log in stream.
6	11	211	Log in stream.
6	11	171	Log in stream.
7	4	184	Log in stream.
7	4	250	Log in stream.
7	5	284	Log in stream.
7	6	258	Log in stream.
7	8	170	Log in stream.
7	8	213	Log in stream.
7	9	190	Log in stream.
7	10	293	Log in stream.
8	6	223	Log in stream.
8	6	237	Log in stream.
8	6	267	Log in stream.
8	7	210	Log in stream.
8	9	240	Log in stream.
8	11	310	Log in stream.
9	4	293	Log in stream.
9	5	290	Log in stream.

Average age of a tree 24 inches in diameter is 187 years.

APPENDIX IV.

GAMÔN WORKING CIRCLE.—LIST OF TREES, &c., WHICH HAVE BEEN OBSERVED AND NOTED AS OCCURRING.

	Botanical name.
Teak	Tectona grandis.
Pyinkado	Xylia dolabriformis.
Kôn-pyinma	Lagerstrœmia macrocarpa.
Pyinma	Lagerstrœmia flos reginæ.
In	Dipterocarpus tuberculatus.
Ingyin	Shorea siamensis.
Thitya	Shorea obtusa.
Cutch	Acacia catechu.
Kanyin	Dipterocarpus lævis.
Taukkyan	Terminalia tomentosa.
Yôn	Anogeissus acuminata.
Myaukchaw	Homalium tomentosum.
Zinbyun	Dillenia parviflora.
Seikchi	Briedelia retusa.
Petwun	Berrya amonilla.
Bambwè	Careya arborea.
Aukchinza	Diospyros chrotioides.
Gwè	Spondias mangifera.
Thitpôk	Dalbergia purpurea.
Thunwin	Millettia leucantha.
Didû	Bombax insigne.
Letpan	Bombax malabaricum.
Yindaik	Dalbergia cultrata.
Sawbya	
Tan	Nauclea parvifolia.
Tenkôla	Nauclea sessilifolia.
Lein	Terminalia pyrifolia.
Leza	Lagerstrœmia tomentosa.
Thitsein	Terminalia belerica.
Dwani	Eriolæna candollei.
Thitpagan	Miliettia Brandissii.
Nabè	Odina Wodier.
Thandè	Stereospermum neuranthum.
Thapan	Ficus Chittagonga.
Dônshaw	Sterculia sp.
Myaukngo	Duabanga sonneratioides.
Chinyôk	Garuga pinnata.
Kyunnalin	Premna tomentosa.
Shawni	Sterculia villosa.
Shawbyu	Sterculia versicolor.
Shawa	Sterculia ornata.
Yekathit	Erythrina lithosperma.
Phanga	Terminalia tomentella.
Hmaik-a	Cordia sp.
Thitkya	
Taungpetwun	Pterospermum acerifolium.
Ma-ugaungdôn	Sarcocephalus cadamba.
Ma-ulettaushe	Sarcocephalus cordatus.
Binga	Nauclea rotundifolia.
Bôbya	Cratoxylon neriifolium.
Thingan	Hopea odorata.
Zaungbalè	
Myaya	Cordia sp.
Kanazo	Baccaurea sapida.
Nagyè	Pterospermum semisagittatum.
Myauklôk	Artocarpus Lakoocha.
Thitshwelwè	Schrebera swietenioides.
Hnaw	Nauclea cordifolia.
Hmauni	Gardenia erythroclada.
Kabaung	Strychnos nuxvomica.
Yèmene	Gmelina arborea.
Tauksha	Vitex leucoxylon.
Hmaik-kyauk	
Kadut	Ficus hispida.
Thabyu	Dillenia Indica.
Byu	Dillenia pulcherrima.
Madama	Dalbergia glauca.
Thitcho	Sideroxylon tomentosum.
Dwabôk	Kydia calycina.
Petthan	Heterophragma adenophylla.

GAMÔN WORKING CIRCLE.—LIST OF TREES, &c., WHICH HAVE BEEN OBSERVED AND NOTED AS OCCURRING—concluded.

	Botanical name.
Thitsanwin	Dalbergia nigrescens.
Thabutgyi	Milusa velutina.
Chye	Semecarpus pandurata.
Yinma	Chickrassia tabularis.
Taungkalamet	Cordia fragrantissima.
Gyo	Schleichera trijuga.
Thityin	Croton oblongifolius.
Zibyu	Cicca macrocarpa.
Taungthayet	Mangifera Indica.
Shazaung	Euphorbia Antiquorum and Euphorbia Nivulia.
Ka-aunggyi	Clerodendron infortunatum.
Chok	Diospyros cordifolia.
Thitmagyi	Albizzia odoratissima.
Zanon	Wallichia Yomæ.
Zalu	Licuala peltata.
Yingan	Zalacca Wallichiana.
Kyathaungwa	Bambusa polymorpha
Tinwa	Cephalostachyum pergracile.
Myinwa	Dendrocalamus strictus.
Thaikwa	Bambusa tulda.
Watlabok	Dinochola Maclellandii.
Waya or teleguwa	Dendrocalamus longispathus
Wapyugalè	Gigantochloa albo-ciliata.

WORKING PLAN

OF THE

MINHLA WORKING CIRCLE,

THARRAWADDY DIVISION, PEGU CIRCLE, LOWER BURMA.

SEASON 1887-88.

RANGOON: PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRINTING, BURMA. APRIL 1889.

X

WORKING PLAN

OF THE

MINHLA WORKING CIRCLE,

THARRAWADDY DIVISION, PEGU CIRCLE, LOWER BURMA.

SEASON 1887-88.

CHAPTER I.

OBJECT AND DURATION OF WORKING PLAN AND EXTENT OF WORKING CIRCLE.

Object of plan.

1. The object of this working plan is to establish order in the working of the forest. This consists in prescribing the annual yield of teak timber and fixing it at such a figure as will insure its being permanently sustained, and also in prescribing such cultural and other operations as will tend to the continued improvement of the forest.

Duration of plan.

2. The present plan only covers a period of 35 years, which represents the first of five periods of a revolution of 175 years, this being the average age at which a teak tree in this forest is estimated to attain its maximum of utility. At the same time figures are given to show that the average annual yield fixed upon can be sustained throughout the revolution.

Extent of working circle.

3. The Minhla working circle embraces so much of the forest which was reserved in Notification No. 42 (Forests), dated Rangoon, the 16th April 1878, as is drained by the Minhla stream and its tributaries. Its area is 25,883 acres, or 40·4 square miles.

CHAPTER II.

GENERAL DESCRIPTION OF WORKING CIRCLE.

1.—Situation, Boundaries, and Configuration.

Situation and boundaries.

4. The Minhla working circle is about 20 miles distant in an easterly direction from the Ôkpo station on the Irrawaddy Valley State Railway. It is bounded on the north by the Gamôn working circle, on the east by the Pegu Yoma range, on the south by the Môkka and Kadin-Bilin working circles, and on the west by unreserved forests and cultivation.

General configuration.

5. The country covered by the Minhla forest consists of undulating ground and low hills in the west, rising gradually to the main Yoma ridge, which forms the eastern boundary. There are numerous spurs and ridges given off from the Yoma and which run in a more or less east and west direction. The slopes from the Yoma and from some of the abovementioned ridges, especially the Se-obyauk ridge and the Seindaung ridge, are very steep in places, rendering the extraction of timber difficult. There is no doubt, however, that these difficulties would be overcome if a great demand for timber rendered it worth while for the contractors working the forest to exert themselves. Level ground occurs in places on the banks of the Minhla main stream below the junction of the North and South Minhla chaungs; above this point the banks of the streams are high and in places precipitous. As a rule the North and South Minhla chaungs and the main stream after the junction of the above are fairly free of obstructions, the sources of the stream are in many places very rocky, and the Se-obyauk chaung, a feeder of the South Minhla chaung, is much obstructed by rocky *kadins*, though timber is at present being worked out along the lower portion.

2.—*Climate.*

Climate.

6. The climate is that common to the central portion of Lower Burma; it is probably slightly moister than that of the adjacent alluvial plain of the Irrawaddy. The annual rainfall at Tharrawaddy, the nearest meteorological station, is about 98 inches. The temperature ranges between 55° and 105°. Dew falls copiously till about the middle of February. Very little damage which could be put down to action of storms was observed.

3.—*Underlying Rock and Surface Soil.*

Underlying rock.

7. The underlying rock is mostly a hard sandstone with sandy argillaceous shales and belongs to the miocene period. The sandstone forms the backbone of the ridges (the tops of which are not unfrequently a mere narrow ridge of rock with a westerly dip), being exposed by the denudation of the overlying shales. These shales vary from a hard slaty kind on the higher ground and steep slopes to a soft yellow or grey kind on the lower ground, where, in the beds of the streams, some good sections are met with. Laterite occurs in small patches in the south-western and low-lying portion of the forest.

Surface soil.

8. On the high hills and steep slopes there is practically no surface soil owing to the action of the rain on the friable shales, which present a very loose surface with blocks of sandstone scattered about and not a trace of humus or vegetable *débris* of any sort. On the lower hills and in the valleys the soil is generally a good loam with varying proportions of sand and clay, except in the portions of the forest which are fire-traced on account of the presence of plantations; the formation of humus is impossible owing to the annual recurrence of forest fires.

4.—*General Character of the Forest.*

Character.

9. About two-thirds of the working circle are covered by dry forest, which may be considered as characteristic of the shaly soil; it is extremely dry on the exposed ridges and steep slopes where the accompanying bamboo is invariably myinwa (*Dendrocalamus strictus*) of stunted growth and sparsely scattered. The teak in this class of forest is of poor growth, the trees being generally stunted and irregularly grown, and liable to go hollow owing to the constant attacks of fire. On lower hills and in the valleys where the soil is shaly the forest is dry, but the growth of teak is much better, and accompanying bamboos, myinwa and thaikwa (*Bambusa tulda*), attain much larger dimensions and form a thicker undergrowth than in the higher dry forest; the latter bamboo seems to affect the soft yellow shales and low ground.

Moist forest occurs on the loamy soil in the low-lying valleys and on the level ground along the streams. The growth of teak in this class of forest is very good, the trees attain a great length of bole, and are generally very regularly grown. The undergrowth consists of the following bamboos,—Kyathaung (*Bambusa polymorpha*) most plentiful with tinwa (*Cephalostachyum pergracile*) in parts and waya (*Dendrocalamus longispathus*) occurring occasionally.

There is a little evergreen forest containing no teak along some of the streams draining the Karen area, and patches of indaing occur on the laterite soil in the south-west of the reserve.

A list of species accompanying teak in the different classes of forest is given in an appendix.

5.—*Rate of growth of Teak.*

Mode of estimating.

10. The figures for the growth of teak have been arrived at by taking the average of results obtained by borings made with Pressler's growth gauge in green teak trees of different diameters from under 12 inches to over 30 inches, and the results obtained by counting the annual rings on stumps and logs found in the forest.

Pressler's gauge.

11. The borings with the Pressler's gauge give the following results as to the ages of trees of different diameters :—

Diameter of trees.	Annual diameter increase.
Diameter 12 inches and below	·168
Diameter from 12—18 inches	·177
Diameter from 18—24 inches	·108
Diameter from 24—30 inches	·103

From this the average ages of trees of the different diameter classes are as follows :—

Average age of trees of 12 inches diameter = $\frac{12}{\cdot 168}$ = 71 years.
Average age of trees of 18 inches diameter = $71+\frac{6}{\cdot 177}$ = 105 years.
Average age of trees of 24 inches diameter = $105+\frac{6}{\cdot 108}$ = 160 years.
Average age of trees of 30 inches diameter = $160+\frac{6}{\cdot 103}$ = 218 years.

The borings were made indiscriminately in dry and moist forest.

Countings of annual rings on stumps and logs.

12. The readings on stumps and logs give 173 years as the average age of trees of 24 inches in diameter. Taking the average of the results obtained by the Pressler's gauge and by the countings of annual rings on stumps and logs, a teak tree in this working circle is shown to take, in round numbers, 165 years to attain the diameter which has been fixed as the lowest limit for girdling, namely, 24 inches in dry forest and 28 inches in moist forest.

6.—*Previous History.*

When declared a reserved forest.

13. The Minhla working circle is portion of a tract of forest which was constituted a reserve by Notification No. 42 (Forests), dated Rangoon, the 16th April 1878.

Classification of historical facts.

14. The facts concerning the previous history of the working circle as far as can be gathered from old records may be classified as follows :—

(*a*) Girdling.
(*b*) Yield.
(*c*) Blasting operations.
(*d*) Taungya and regular teak plantations.
(*e*) Fire-tracing.

(*a*) *Girdling.*

Girdling operations.

15. During the 23 years from 1856-57 to 1878-79, 10,315 trees are reported as having been girdled in the Minhla forests and during the same period 18,370 tons of timber were extracted. These numbers include trees girdled in the unreserved forest outside the working circle. Since 1879 there has been no girdling inside the reserve.

(*b*) *Yield.*

Yield to date roughly estimated.

16. Of the 18,370 tons of teak timber extracted during the 23 years from 1856-57 to 1878-79, about one-third may be roughly taken as having come from the unreserved forests outside the working circle, therefore, the approximate yield of the reserve was 12,250 tons, or, allowing 1¼ tons per tree, an annual yield of 400 trees for 23 years. From 1879-80 to 1887-88 3,954 logs have been extracted from the working circle, being a yield of 565 logs, or approximately 420 trees per annum. There are still a fair number of old girdled trees standing in the forest.

(*c*) *Blasting Operations.*

Blasting operations.

17. No blasting operations of any importance have been carried out in this working circle. In 1864-65 a few boulders were broken up in the Minhla stream, and in 1865-66 a few minor obstructions were removed.

(*d*) *Regular and Taungya Teak Plantations.*

There are no regular teak plantations in this working circle.

Taungya plantations.

18. Taungya teak plantations have been made in the working circle as follows :—

Year.	Area in acres.	Number of plants per acre.
1873	32	888
1874	60	480
1875	49	479
1880	32	895
1881	85	561
1882	56	447
1883	119	664
1884	77	1,088
1885	138	1,399
1886	90	948
1887	150	972
Total ...	888	802

The work has been carried out by Karens and in some cases by Burmans from the neighbouring village Sèywa. Notes on the present condition of these plantations will be found in the detailed description of compartments.

(*e*) *Fire-tracing.*

Fire-protection.

19. Up to the end of 1880-81 the teak plantations were protected from fire separately, but in 1882 they were included within one fire-trace, embracing an area of about 3,000 acres. During this period protection was successful with the exceptions that in 1877-78 eight acres were burnt and in 1881-82 60 acres were burnt, including 7 acres of plantation made in 1875. In 1882-83 four yas were burnt. In 1883-84 there were no fires. In 1884-85 349 acres of plantation were burnt. In 1885-86 the whole of the protected area was burnt by dacoits. In 1886-87 94 acres of plantation were burnt, and during last dry season 154 acres of plantations were burnt.

7.—*Sources of Revenue other than Teak.*

Quantity of forest produce other than teak extracted during last five years and revenue realized thereon.

20. The following statement shows the quantity of forest produce other than teak extracted from the forest during the last five years and the revenue realized thereon :—

Year.	Cutch.		Bamboos.		Shaw fibre.		Thatch grass.		Cigar leaves.		Honey, wood-oil, &c.	
	Trees.	Revenue.	Number.	Revenue.	Viss.	Revenue.	Bundles.	Revenue.	Number.	Revenue.	Licenses.	Revenue.
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
1883-84 ..	..	..	30,450	76	1,630	17	..	..	450,000	23	1	5
1884-85 ..	164	265	30,800	77	3,700	37	300	3	..	..	1	10
1885-86 ..	232	413	14,100	35	3,500	35	400	4	60,000	12	2	24
1886-87 ..	615	1,262	4,000	10	..	..	..	..	..	..	..	..
1887-88 ..	343	1,000	42,600	106	..	..	..	..	70,000	35	1	12
Total ..	1,884	2,940	121,950	304	8,880	89	700	7	580,000	70	5	51

Pyinkado is plentiful in the reserve, but no demand for this wood is likely to arise till the stock in unreserved forests nearer the railway is exhausted.

8.—*Causes of Injury.*

Fires, storms, &c.

21. The principal cause of injury is of course fire, which annually sweeps through the unprotected portion of the reserve. Storms do little appreciable damage, and that due to creepers and epiphytic plants is unavoidable until far closer supervision than is at present obtainable can be employed. Cattle-grazing may be left out of con-

sideration altogether, as the Karens residing in or near the reserve possess no cattle, and the animals belonging to the villagers of Sèywa find plenty of fodder outside the reserve.

9.—Population and Rights.—Bungalows.

Population.

22. The Minhla working circle contains one Karen area of 4,135 acres in extent. Of this about 1,000 acres are fairly stocked with teak. The population in 1878, when the forest was reserved, was—

Community.	Population.
(*a*) Ko Pa E te	46
(*b*) Ko Shwe Zin te	44
Total ...	90

At present it is impossible to give a figure for the population as, owing to the disturbed state of the district during the last three years, the Karens have been incessantly shifting about, locating themselves sometimes within and sometimes outside the reserve. There is permanent cultivation close to the reserve on the west bank of the Minhla stream belonging to the village of Sèywa.

Rights.

23. (i) Karens residing in the Karen area have the right to cut taungyas within their usual taungya grounds and to collect forest produce (with the exception of teak, thitka, and thitkado).

(ii) Pro Shwe Nwe, the headman of Sèywa village, has been allowed the privilege of cultivating about 10 acres of paddy-land inside the reserve in Compartment 12.

Bungalow.

24. There is a small inspection bungalow at Sèywa.

CHAPTER III.

Blocks and compartments.

25. The working circle has been divided into blocks and compartments as follows :—

	Acres.	Compartments.
West Minhla block	9,757	... 17
North Minhla block	5,836	... 11
South Minhla block	6,155	... 16
Karen area block	4,135	... 4
Total ...	25,883	... 48

The blocks are large natural divisions according to drainage. In the Karen area the average area of compartments is about 1,030 acres and in the rest of the working circle about 495 acres. The boundaries of compartments in all cases follow paths, ridges, or streams, they are marked out by deep blazes on the tree stamped with a (C) hammer. At all salient angles hard wood (mostly teak) posts have been planted in the ground, bearing iron plates stamped with the numbers of the adjacent compartments.

CHAPTER IV.

Estimate of Growing Stock.

Classification of area.

26. The whole area of the Minhla working circle may be roughly classified as follows :—

	Acres.
Area devoid of teak (pónzo, &c.)	5,535
Plantations	888
Teak forest	19,460
Total ...	25,883

Sample areas counted out.

27. In each compartment one or more sample areas with natural boundaries were selected, and on these areas all teak trees as well as all trees of other species above 1 foot in diameter were counted. The trees of the following species were specially noted,—Pyinma, pyinkado, kanyin, ingyin, thiya, in, and cutch. The results of these countings are shown in an appendix. The average size of these sample areas is about 64 acres, the area counted out being about 20 per cent. of the whole area of the working circle. No doubt complete countings would have furnished more accurate and reliable results, but experience has proved this method would be too costly and impracticable. In the first place the labour-supply is limited, and secondly, it is imperatively necessary that working plans should be framed for all teak reserves as quickly as possible if the present market-supply is to be maintained and the extraction carried out with due regard to the future of the forests. The system here adopted has, moreover, been proved by practice to furnish fairly accurate results.

Estimate per compartment.

28. The results obtained from the countings have been applied to estimate the growing stock in each compartment, allowance being made where necessary in case of compartments containing plantations or areas devoid of teak.

Growing stock of working circle.

29. The estimated growing stock in the working circle is as follows :—

	Trees.
Girdled or dead teak trees	600
Sound green Teak Trees above 2 feet diameter.	
2½ feet diameter and above	7,720
2 feet to 2½ feet diameter	10,440
Sound green Teak Trees below 2 feet diameter.	
1½ feet to 2 feet diameter	15,950
1 foot to 1½ feet diameter	27,980
Below 1 foot diameter, dominant	36,570
Below 1 foot diameter, suppressed	39,230
Teak trees in plantations	71,200
Unsound green Teak Trees.	
Above 1 foot diameter	6,180
Below 1 foot diameter	1,930
Trees other than Teak above 2 feet diameter.	
Pyinkado	59,500
Pyinma	13,900
Kanyin	1,700
Ingyin and thiya	2,700
In	120
Cutch	1,100
All others	384,641

The plantations in the working circle cover an area of 888 acres with an average stock of 802 teak plants per acre.

CHAPTER V.

General Proposals for Working.

1.—Determination of annual Yield.

a.—Teak Timber.

System of working.

30. The only system on which the forest can at present be worked is that of "selection fellings."

Division into classes.

31. The actual growing stock in the working circle is as follows :—

	Trees.
Trees above 2½ feet diameter	7,720
Trees from 2 feet to 2½ feet diameter	10,440
Trees from 1½ feet to 2 feet diameter	15,950
Trees from 1 foot to 1½ feet diameter	27,980
Trees below 1 foot diameter, dominant	36,570
Trees below 1 foot diameter, suppressed	39,230
Present stock of plantations, roughly estimated at 40 per cent. of the original stock	284,000

This growing stock may be divided into the following classes :—

I class trees having 24 inches diameter in *dry* forest.
I class trees having 26 inches diameter in *moist* forest.
II class trees between 18 inches and 24 inches diameter in dry forest.
II class trees between 18 inches and 26 inches diameter in moist forest.
III class trees between 12 inches and 18 inches diameter.
IV class trees below 12 inches diameter.

Estimate of annual yield.

32. About one-third of the teak-producing area in the working circle may be taken as covered with moist forest and two-thirds with dry forest. Of the 10,440 trees between 24 and 30 inches in diameter two-thirds or 6,960 may be taken as growing in dry and one-third or 3,480 in moist forest. Of these 3,480 trees granted that one-third or 1,160 are between 24 and 26 inches in diameter, they will not therefore be I class trees. The proportion of 1,160 to 18,160, the total number of trees above 24 inches in diameter, is about $\frac{1}{15}$th, hence it may be taken for granted that only $\frac{14}{15}$ths of the trees over 24 inches in diameter will be I class trees.

The classified growing stock will then be as follows :—

I class trees = $\frac{14}{15}$ of 18,160 = 16,950.
II class trees = 15,950 + $\frac{1}{15}$ of 18,160 = 17,160.
III class trees = 27,930.
IV class trees = 147,000.

In the absence of any reliable data to go on, let it be granted that trees of the different classes will survive to reach the exploitable age in the following proportions, namely :—

95 per cent. of the I class.
85 per cent. of the II class.
70 per cent. of the III class.
40 per cent. of the dominant trees below 1 foot diameter.
10 per cent. of the suppressed trees below 1 foot diameter and stock in plantations.

The growing stock on which the estimate of the average annual yield must be based will then be as follows :—

	Trees.
I class	16,100
II class	14,600
III class	19,550
IV class	46,900

From the results of Pressler's gauge borings and countings of annual rings on stumps and logs it is estimated that on an average a teak tree takes—

70 years to attain a diameter of 12 inches,
40 years to increase from 12 to 18 inches,
55 years to increase from 18 to 24 inches in dry and 26 inches in moist forest,

that is, a tree attains the lowest limit of girth for girdling in 165 years, allowing 10 years more for the tree to attain its maximum of utility, the average annual yield for the first two periods, or a total of 70 years, might be—

$$\frac{16{,}100 + 14{,}600 + \frac{14}{15}\,19{,}350}{70} = 522 \text{ trees}$$

or estimating for the whole revolution of 175 years —

$$\frac{16{,}100 + 14{,}600 + 19{,}550 + 46{,}900}{175} = 555 \text{ trees.}$$

From these figures it is apparent that it will be safe to fix the sustained average annual yield, that is, the number of trees to be girdled annually in the Minhla working circle, at 500 trees.

Plan of girdling.

33. The following table shows the plan of girdling:—

Name of block.	No. of compartment.	Area in acres.	Estimated number of teak trees in 1888. Above 24 inches in diameter.	18 inches to 24 inches diameter.	12 inches to 18 inches diameter.	Number of trees to be girdled during sub-period.
1st sub-period, 1889 to 1895.						
West Minhla block.	1	588	84	12	84	
	2	784	...	...	...	
	3	531	8	4	15	
	4	463	...	...	5	
	5	642	48	41	112	
	6	587	195	203	207	
	7	684	870	871	497	
	8	730	182	162	540	
	9	689	332	344	365	
	10	678	394	748	996	
	11	430	228	287	617	
	12	548	108	105	162	
	13	401	128	242	326	
	14	321	78	14	86	
	15	559	40	90	274	
	16	570	41	77	210	
	17	552	121	158	505	
Karen area.	18	550	5	10	5	
	19	1,700	848	228	832	
	20	1,376	17	32	82	
	21	509	...	2	...	
South Minhla	22	305	486	171	450	
	23	358	639	365	962	
Total	...	14,555	3,742	3,616	7,282	3,500
2nd sub-period, 1896 to 1902.						
South Minhla.	24	352	322	229	799	
	25	428	511	402	634	
	26	549	1 122	974	1,008	
	27	316	195	445	818	
	28	320	290	264	334	
	29	369	243	224	408	
	31	455	928	545	558	
Total	...	2,799	3,606	3,088	4,554	3,500
3rd sub-period, 1903 to 1909.						
South Minhla.	30	402	370	480	830	
	32	376	499	384	858	
	33	484	656	620	1,102	
	34	295	252	448	768	
	35	261	459	368	528	
	36	268	196	180	218	
	37	618	542	755	1,250	
North Minhla	38	498	607	421	729	
Total	...	3,192	3,581	3,651	6,278	3,500
4th sub-period, 1910 to 1916.						
North Minhla.	39	391	472	634	604	
	40	588	528	709	1,381	
	41	509	432	586	1,390	
	42	611	451	678	568	
	43	413	851	671	568	
	44	678	1,234	828	1,290	
Total	...	3,140	3,968	4,106	5,801	3,500
5th sub-period, 1917 to 1923.						
North Minhla.	45	488	877	526	806	
	46	544	1,071	817	634	
	47	528	698	823	584	
	48	638	616	847	1,190	
Total	...	2,198	3,262	1,513	3,164	3,500
Summary.						
1st sub-period		14,555	3,742	3,616	7,282	
2nd sub-period		2,799	3,606	3,088	4,554	
3rd sub-period		3,192	3,581	3,651	6,278	
4th sub-period		3,140	3,968	4,106	5,801	
5th sub-period		2,198	3,262	1,513	3,164	
Grand Total...		25,884	18,159	15,969	27,079	17,500

The prescribed number of trees may be girdled annually, or the girdling may be carried out over the whole sub-periodical area in the first or any other year of the sub-period.

Distribution of I and II class trees.

34. The following table shows the present distribution of I and II class trees over the sub-periodical areas :—

Sub-period.	Area in acres.	I class.	II class.
First	14,555	8,315	8,315
Second	2,799	8,198	2,825
Third	8,192	8,175	8,300
Fourth	8,140	8,518	8,690
Fifth	2,198	2,894	1,470
Total ...	25,884	16,100	14,600

Quantity available for girdling during 1st period.

35. The following table shows the number of trees which will be available for girdling during the 1st period :—

Sub-period.	Years of girdling.	Mean year.	Number available.	Number to be girdled.
First	1889—1895	1892	3,315 + $\frac{4}{6}$ of 3,315 = 3,519	3,500
Second	1896—1902	1899	3,198 + $\frac{11}{6}$ of 2,825 = 3,676	3,500
Third	1903—1909	1906	3,175 + $\frac{15}{6}$ of 3,300 = 4,035	3,500
Fourth	1910—1916	1913	3,518 + $\frac{21}{6}$ of 3,690 = 4,937	3,500
Fifth	1917—1923	1920	2,894 + $\frac{31}{6}$ of 1,470 = 3,617	3,500
			Total ... 19,784	17,500

Prescribed girdling areas and number of trees not to be exceeded.

36. The annual yield being fixed at 500 trees and the sub-periodical girdling areas defined, under no circumstances may the total number of trees to be girdled in the sub-period be exceeded, nor must the girdling extend beyond the prescribed area even if the prescribed number of trees be not obtained within it.

Girth measurement in girdling.

37. In estimating the growing stock diameter measurements have been used, but in girdling it is found more convenient to measure the girth of trees; therefore, it is prescribed that in dry forest no tree under 6 feet in girth, at breast height, and in moist forest under 7 feet girth shall be girdled.

General rules for girdling.

38. The following general rules should be observed in girdling :—

(i) The abovementioned limits of girth in moist and dry forest should be adhered to, except in certain cases where, in the opinion of the girdling officer, a tree shows signs of premature decay and its removal would tend to the improvement of the forest, as well as pay for its immediate extraction instead of being left to decay in the forest.

(ii) Sound trees, though of marketable size, if standing in localities from which large timber can be easily removed, should not be girdled unless they show signs of cessation of growth.

(iii) Isolated trees should not be girdled unless with the object of clearing away cover to help the establishment of already existing seedlings.

(iv) Trees attacked by *epiphytic ficus* should be felled and not girdled.

39. Works of improvement must always accompany the girdling operations. Every effort must be made to increase the proportion of teak in the forest and to help and improve the growth of the existing stock. Creepers must be cut and *epiphytic ficus* removed. Trees of other species which hinder the growth of teak by their cover must be girdled or felled if necessary. Their removal also causes blanks where teak seedlings may have a chance of establishing themselves. In the description of compartments the necessary works of improvement are prescribed.

Works of improvement at the time of girdling.

40. Taking the area of the working circle at 25,800 acres the following is the average of different sized trees per acre :—

Average number of teak trees per acre.

	Trees.
Teak trees above 80 inches diameter	0·298
Teak trees between 24 inches and 80 inches diameter	0·404
Teak trees between 18 inches and 24 inches diameter	0·618
Teak trees between 12 inches and 18 inches diameter	1·082
Teak trees below 12 inches, dominant	1·417
Teak trees below 12 inches, suppressed	1·520
Teak trees in plantations	2·759
Total ...	8·098

This is a poor average and every exertion should be made to increase it.

41. A control book as prescribed for previously formed working circles must be carefully kept up.

Control book.

(*b*) *Timber other than Teak and Minor Produce.*

42. At present there is next to no demand for timber other than teak from the working circle, the wants of the neighbouring population being amply supplied from the unreserved forests. Cutch is the only tree which has yielded any revenue in the reserve during the last five years. This species is not very plentiful in the reserve, and efforts might be made to increase it by arranging with boilers for a small consideration to plant seed in the blanks caused by the removal of the old trees.

Reserved and unreserved timber.

The revenue derived from bamboos and minor produce calls for no remark.

2.—Money value of Annual Yield.

43. The actual revenue and expenditure of the Minhla working circle during the last five years has been as follows :—

	Rs.
Revenue	1,19,313
Expenditure	88,731

leaving a surplus of Rs. 80,582, or Rs. 16,116 per annum. The outturn of timber during the next 35 years may be expected to be—

	Tons.
17,500 trees yielding 26,250 logs at 45 cubic feet	23,625
400 girdled trees yielding 600 logs at 45 cubic feet	540
2,000 nathat trees yielding 2,000 logs at 25 cubic feet	1,000
Total ...	25,165

or an average of about 720 tons per annum.

The annual revenue and expenditure may be estimated as follows :—

Revenue.

	Rs.
720 tons of teak at Rs. 40 per ton	28,800
Other forest produce	800
Total ...	29,600

Expenditure.

	Rs.
825 logs extracted at Rs. 8-8-0 per log	7,000
Girdling and works of improvement	500
100 acres taungya plantations at Rs. 12 per acre	1,200
Fire-protection	200
Quota of B expenditure	1,500
Total ...	10,400

leaving a net annual surplus of, in round numbers, Rs. 19,200, or Rs. 0-11-10 per acre for the whole working circle.

3.— Protection and Improvement.

Fire-protection.

44. At present the West Minhla block is the only one which contains plantations and consequently fire-protection is confined to this block. The area protected during the last dry season of 1887-88 was 915 acres. This includes all the plantations.

Improvement.

45. It is very necessary that in the West Minhla block the work of planting up areas devoid of teak should be vigorously carried on. There are localities on the Sungôk and Migyaung chaungs where teak plantations have every chance of proving successful, and every effort should be made to induce the Karens who are at present content to cut taungyas in their allotted area to undertake the work of planting. The existing plantations should be frequently inspected and the weeding carefully carried out. Under ordinary circumstances it would be sufficient if plantations were weeded for the first three years, then at the fifth, eighth, and twelfth years, but no hard-and-fast rule can be laid down, and weeding must be carried out whenever considered necessary, that is, till the young plants have fairly established themselves and can go ahead. This is sufficient if the plantations are completely stocked to start with. This appears to be the secret of success in taungya planting and it would be worth while to offer prizes to the planters to turn out good yas. At present they are inclined to give more attention to their crops of paddy, &c., than to the raising of healthy teak seedlings. Any outlay in this direction would be amply repaid by the improvement and increase in value of the forest. In the North and South Minhla blocks, where teak is plentiful, it is noticeable that the number of old trees is out of proportion to the young stock ; in other words, natural regeneration is not good. A good deal might be done in a rough way and at small cost to improve this. Where girdling is carried out and blanks are created by clearing out trees of useless species in the rainy season following this work, the forester in charge of the forest might with very little trouble dibble in teak seed in these blanks. The expenditure for seed, &c., would be insignificant. The experiment at any rate seems worth trying. Every opportunity should be taken to plant teak over areas where bamboo has flowered. Plantations made in this way give as good results as the best taungya plantations.

4.—Communications and Water-supply.

Floating streams.

46. The North and South Minhla chaungs and the main stream after the junction of the above are good for floating timber. The beds of the streams are in places strewn with large boulders, rendering traffic in the dry season rather difficult, but during the rains the depth of water is usually sufficient to carry logs clear of these obstructions. Their removal would be advantageous, but is not immediately or absolutely necessary. Many of the feeders and the sources of the main stream are rocky and contain *kadins*. These obstructions might be removed when the parts of the forest in which they occur are being worked. They are noted in the detailed description of compartments.

Water-supply.

47. Water is to be found in the main stream all the year round. There is a running stream only during the rains. The feeders are dry by the middle of March. Small springs are pretty frequent near the sources of the stream.

5.—Establishment.

Establishment.

48. The Minhla working circle forms part of the Gamôn range and the establishment especially attached to it consists of one forester. If the proposed girdling and works of improvement are to be efficiently carried out an additional forester or guard will be necessary.

Minhla Reserve.—Pressler's Gauge Readings.

Compartment.	Girth.		Diameter, increase.			Remarks.	Compartment.	Girth.		Diameter, increase.			Remarks.
			Inches.	Years.	Average.					Inches.	Years.	Average.	
	Ft.	in.						Ft.	in.				
Trees under 12 inches in diameter.													
1	0	11	1·5	16	·187			2	3	1·2	9	·286	
	1	0	1·5	16	·146					1·5	14		
			1·4	22						1·2	10		
	1	1	1·3	11	·222					1·3	18		
			1·6	15				2	5	1·2	13	·160	
	1	3	17	23	·158					1·4	17		
			16	19						2·1	30		
	1	4	2·0	19	·218			2	5	1·3	18	·149	
			2·5	22						1·9	21		
	1	4	1·7	14	·219					1·3	18		
			2·0	18				2	7	1·8	26	·187	
	1	4	2·0	33	·120					1·2	19		
	1	5	1·7	16	·176					1·7	26		
			1·9	24				2	7	2·0	14	·192	
	1	5	1·4	13	·214					2·2	21		
	1	6	2·0	30	·138					2·2	30		
			1·8	24				2	8	1·9	32	·119	
			1·8	24						1·7	25		
	1	8	1·3	17	·136					1·9	30		
			2·0	34				2	8	1·8	27	·112	
	1	7	2·3	31	·148					2·2	28		
	1	8	1·8	21	·186			2	9	2·3	37	·168	
			2·2	22						2·1	16		
			1·8	14						1·5	17		
	1	9	1·0	9	·205			2	11	1·3	13	·147	
			2·3	25						1·2	21		
			2·1	36						1·4	18		
	1	9	2·0	27	·138			3	0	1·8	23	·176	
			2·0	24						2·1	19		
	1	9	1·7	15	·224			2	2	2·1	41	·156	
			2·1	23						2·3	15		
	1	10	1·5	24	·129								
			1·5	21									
										Average diameter increase=·168 inches per annum. ∴ Average age of a tree 12 inches in diameter=71 years.			
Trees from 12 to 18 inches in diameter.													
	3	2	1·7	14	·231			3	6	1·6	21	·192	
			1·3	9						1·9	18		
			1·9	19						1·9	17		
			1·7	11						1·7	18		
	3	2	2·0	11	·348			3	7	1·8	23	·178	
			1·7	9						1·8	19		
			1·7	15						1·9	14		
	3	3	1·3	14	·197			3	8	2·1	20	·225	
			1·9	18						2·0	18		
			1·6	29						1·7	16		
	3	3	1·1	25	·110			3	9	1·6	11	·239	
			1·2	17						1·9	15		
			2·2	16						1·7	16		
	3	4	1·9	11	·316			3	9	1·8	15	·210	
			1·7	9						2·1	22		
			1·8	14						2·0	18		
	3	5	1·4	12	·216			3	10	2·0	21	·254	
			2·0	22						2·0	11		
			1·3	21						1·1	6		
	3	5	1·5	30	·118			3	10	1·9	26	·282	
			1·5	21						2·1	19		
										2·2	12		
			1·3	15						1·8	14		
	3	6	1·7	22	·159			3	10	2·1	21	·220	
			1·5	17						2·2	20		
			1·8	27						2·3	14		
	3	6	2·1	26	·190			3	10	1·9	17	·228	
			2·1	10						2·1	24		

Minhla Reserve.—Pressler's Gauge Readings—continued.

Compartment.	Girth.	Diameter, increase. Inches.	Years.	Average.	Remarks.

Trees from 12 to 18 inches in diameter—(*continued*).

Ft.	in.	Inches.	Years.	Average.
3	10	1·7	20	
		1·4	16	·220
		2·1	11	
3	11	1·5	38	
		1·9	53	·079
		1·3	26	
3	11	1·4	15	
		1·2	36	·100
4	0	2·0	32	
		2·1	38	·188
		1·8	14	
4	0	1·4	17	
		2·0	29	·162
		2·0	20	
4	1	1·7	36	
		1·6	30	·092
		1·3	24	
4	1	1·3	16	·160
4	2	2·3	22	
		2·0	17	·217
		1·9	16	
4	2	1·6	25	
		1·8	28	·122
		1·9	33	
4	3	1·6	22	
		1·8	35	·124
		1·5	21	
4	4	1·8	13	
		1·9	23	·176
		1·6	18	
4	4	1·6	18	
		1·6	11	·178
		2·5	35	
4	5	1·8	13	
		2·0	18	·236
		2·0	18	
4	5	1·2	31	
		1·2	25	·082
		1·2	30	
4	6	1·5	34	
		1·4	34	·074
		2·0	63	
4	6	1·9	21	
		1·6	16	·150
		2·1	24	
4	7	1·8	42	
		2·0	54	·114
		2·1	57	
4	8	2·0	43	
		1·7	34	·098
		1·8	40	
4	8	1·6	17	
		2·0	21	·204
		2·4	21	

Average diameter increase = ·177

Average age of a tree 18 inches in diameter= 71 + 34 = ·105 years.

Trees from 18 to 24 inches in diameter.

Ft.	in.	Inches.	Years.	Average.
4	9	2·0	33	
		2·1	37	·121
		2·2	35	
4	9	1·8	15	
		2·0	38	·140
		2·1	24	
4	10	2·3	62	
		2·2	47	·121
		1·8	35	
4	10	2·0	27	
		2·1	55	·100
4	11	2·1	54	
		1·8	49	·075
		1·6	41	
5	0	2·0	37	
		1·9	30	·127
		1·4	16	
5	0	1·3	12	
		1·9	21	·162
		1·8	26	
5	1	1·7	27	
		1·5	22	·131
		1·9	29	
5	2	1·6	18	
		1·6	11	·178
		2·5	35	
5	2	1·2	31	
		1·2	25	·082
		1·2	30	
5	4	2·0	22	
		2·3	31	·160
		2·0	25	
5	4	1·6	33	
		1·1	18	·094
		2·0	41	
		1·5	39	
5	6	2·3	52	
		2·1	33	·111
		2·0	29	
5	6	2·4	50	
		2·3	28	·116
		2·2	41	
5	6	1·4	14	
		1·4	15	·176
		1·7	22	
5	7	1·5	37	
		1·9	26	·130
		1·9	18	
5	7	2·1	34	
		1·6	18	·134
		1·8	29	
5	8	1·9	39	
		1·7	26	·095
		2·3	61	
5	8	2·1	25	
		2·1	42	·124
5	8	1·6	56	
		2·0	62	·060
5	9	1·8	43	
		2·2	59	·074
		2·4	67	
5	10	2·3	62	·074
5	11	2·0	30	
		2·0	30	·130
		2·1	33	
6	2	1·8	15	
		2·0	38	·140
		2·1	24	

Minhla Reserve.—Pressler's Gauge Readings—concluded.

Compartment.	Girth.	Diameter, increase. Inches.	Years.	Average.	Remarks.	Compartment.	Girth.	Diameter, increase. Inches.	Years	Average.	Remarks.
Trees from 18 to 24 inches in diameter—(*concluded*).											
	Ft. in.						Ft in.				
	6 2	2·0	40	·120			Average diameter increase = ·108				
		1·9	34				Average age of a tree 24 inches in diameter				
		2·0	28				=71+34+55=160 years.				
Trees from 24 to 30 inches in diameter.											
	6 7	1·9	45	·084			8 8	1·2	25	·108	
		2·0	46					1·1	18		
	6 8	0·9	18	·070				1·7	30		
		2·2	82								
		1·7	20					2·1	60		
	6 8	1·7	32	·196			9 6	2·0	40	·076	
		2·0	27					2·3	70		
	6 9	2·1	55	·100							
		1·6	35				10 4	2·1	61	·070	
	7 0	1·8	25	·098				2·0	58		
		1·8	44								
		2·2	86				Average diameter increase=·103				
	7 7	1·9	25	·180			Average age of a tree 30 inches in diameter				
		2·2	85				=155+58=213 years.				

Statement showing Results of Countings of Annual Rings on Stumps and Logs in the Minhla Working Circle.

Girth. Ft.	Girth. in.	Age.	Remarks.
1	6	17	Stump of aulè tree.
2	0	61	Stump on west slope, dry.
3	10	164	Top end
4	1	57	Felled nathat on ridge, moist.
4	8	200	Top end.
5	6	97	Log in stream.
5	9	150	Stump.
5	10	50	Felled nathat stiff loamy soil.
5	11	148	Log in stream.
6	1	70	Stump on low ridge.
6	3	169	Log in stream.
6	4	212	Log in stream.
6	6	200	Log in stream.
6	6	227	Log in stream.
6	9	253	Log in stream.
6	11	235	Log in stream.
7	0	183	Aulè log on steep west slope.
7	5	173	Log in stream.
7	9	234	Log in stream.
8	3	277	Stump on high ridge.
8	3	240	Log in stream.
8	4	273	Log in stream.
8	7	279	Log in stream.
9	2	258	Stump on east slope, dry.
9	8	235	Log in stream.
10	0	280	Aulè log on high ridge.

The average age of a tree 24 inches in diameter is 172 years.

RANGOON :
The 28th August 1888.

H. A. HOGTON,
Deputy Conservator of Forests,
Working Plan Division.

APPENDICES.

APPENDIX I.

DESCRIPTION OF COMPARTMENTS IN WEST MINHLA BLOCK, MINHLA WORKING CIRCLE.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.					Remarks.
				Description of trees.				No.	
1	588	Hilly. The watershed between the Nagadwin and Payagwin chaungs traverses the compartment from east to west. The slopes are rather steep in places. Less hilly in the south and south-east of the compartment. *Soil.*—A sandy loam, stony in parts on the watershed.	Moist in the valleys and on the low ground to the south, dry on the ridges. Mostly open forest without bamboos; *tinwa* occurs in the south and west of the compartment. Teak is entirely absent in the south half; a little occurs in the north. Much of the forest has the appearance of very old pônzo.	Unsound teak above 1 foot diameter				6	The south portion of the compartment offers favourable ground for planting.
				Ditto below ditto				2	
				Sound teak 2½ feet diameter and above				17	
				Ditto 2 to 2½ feet diameter				17	
				Ditto 1½ to 2 feet ditto				12	
				Ditto 1 to 1½ feet ditto				84	
				Ditto below 1 foot diameter, dominant ...				146	
				Ditto below 1 foot ditto, suppressed ...				9	
				Pyinma trees 1 foot diameter and above ...				465	
				Pyingado	ditto	ditto	...	3,157	
				Kanyin	ditto	ditto	...	278	
				All others	ditto	ditto	...	19,693	
2	784	Hilly. The watershed between the Nagadwin and Payagwin chaungs traverses the compartment from east to west. The slopes are rather steep in places. Less hilly in the south and south-east of the compartment. *Soil.*—Similar to No. 1.	Moist in the valleys and on low ground near the streams. Zanon (*Wallichia yomæ*) and salu (*Licuala peltata*) occur frequently. Patches of *kaing* grass occur along the streams. On the ridges and hills the forest is dry and open with very little bamboo; a little stunted *tinwa* in places. There is no teak in the compartment. *Pyinma* is fairly abundant. *Taukkyan* occurs on the drier parts. A few *thingan* trees were noticed.	Pyinma trees 1 foot diameter and above ...				1,328	There is no apparent reason for the absence of teak, the soil is good, and planting ought to be successful.
				Pyingado	ditto	ditto	...	5	
				Kanyin	ditto	ditto	...	434	
				Ingyin and thiya	ditto	ditto	...	3	
				All others	ditto	ditto	...	18,554	
3	531	Generally undulating. The watershed between the Sungôk and Nagadwin chaungs traverses the compartment from east to west. It is nowhere very high and the slopes are not steep. In the east the ground is more hilly, the slopes to the west being fairly steep at times. *Soil.*—A rich sandy loam with sandstone cropping up occa-	Forest as a rule fairly moist, becoming almost evergreen on the banks of some of the streams. Teak scarce, a little occurs along the north boundary; the growth is poor, trees being generally badly buttressed. *Kyathaung* and *tinwa* are plentiful in the centre and east of the compartment and are heavily worked by people living in the neighbourhood of the reserve. A good cart-road traverses the compartment from east to west.	Sound teak 2½ feet diameter and above ...				6	Planting desirable and possible all over the compartment.
				Ditto 2 to 2½ feet diameter ...				2	
				Ditto 1½ to 2 feet ditto ...				4	
				Ditto 1 to 1½ feet ditto ...				15	
				Ditto below 1 foot ditto, dominant ...				47	
				Ditto ditto ditto, suppressed ...				2	
				Pyinma trees 1 foot diameter and above ...				962	
				Pyingado	ditto	ditto	...	1,899	
				Kanyin	ditto	ditto	...	318	
				All others	ditto	ditto	...	14,257	

		sionally. In the north the soil is more clayey.				
4	463	Low ground along the Sungôk and Nagadwin chaungs, rising gently to the main ridge running across the compartment east and west. *Soil.*—A good sandy loam, clayey in places especially on the south slopes.	Forest generally moist; *kyathaung* and *tinwa* are plentiful and heavily worked; *thaikwa* and a little *wapyugale* occur near the Sungôk chaung. Teak very scarce. *Kanyin* trees are fairly plentiful and most of them have been tapped for oil. A cart-road runs through the compartment from east to west.	Sound teak trees 1 to 1½ feet diameter ... Ditto below 1 foot ditto, dominant... Ditto ditto ditto, suppressed Pyinma trees 1 foot diameter and above ... Kanyin ditto ditto ... ... In ditto ditto ... ... All others ditto ditto	5 85 7 1,550 342 7 13,932	Planting should be undertaken.
5	642	Gently undulating; no steep slopes. *Soil.*—A rich loam.	Moist; *kyathaung* and *tinwa* plentiful and heavily worked. The little teak that occurs is found in the north of the compartment.	Unsound teak above 1 foot diameter ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant... Ditto ditto ditto, suppressed Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Kanyin ditto ditto ... ... All others ditto ditto	2 27 16 41 112 298 11 1,014 1,737 110 16,688	Planting should be undertaken.
6	587	Gently undulating with a gradual rise to the south. Fairly steep slopes east and west from the ridge running north and south parallel to the west boundary. *Soil.*—A rich sandy loam.	Moist; *kyathaung* and *tinwa* plentiful and heavily worked; *thaikwa* occurs on old pônzo grounds on the banks of the Letpetgôn chaung. Teak fairly plentiful in the north and centre, absent in the south; growth not good; *pyingado* very plentiful.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant.. Ditto ditto ditto, suppressed Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Kanyin ditto ditto ... ... All others ditto ditto	2 37 16 79 116 203 207 1,136 81 350 3,504 23 12,133	Planting necessary in the south of the compartment.
7	684	Gently undulating in the north; a gradual rise to the south and south-east. Hills in the south not very high; slopes at times rather steep. *Soil.*—A rich sandy loam, more clayey in the south.	Moist in the north but dry on the hills in the south and south-east. Old pônzo grounds occur along the Letpetgôn chaung. Bamboos principally *kyathaung* and *tinwa*. Teak most plentiful about the centre of the compartment where most of the big trees were found. Teak stumps numerous.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ...	38 94 33 94 276 371 497 2,856	

DESCRIPTION OF COMPARTMENTS IN WEST MINHLA BLOCK, MINHLA WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	No.	
				Sound teak below 1 foot diameter, suppressed	59	
				Pyinma trees 1 foot diameter and above ...	724	
				Pyingado ditto ditto	3,090	
				Kanyin ditto ditto	10	
				All others ditto ditto	15,715	
8	730	Low undulating ground in the north and west, low hills in the south and south-east. No steep slopes. *Soil.*—Generally a stiff loam; sandstone appears occasionally on the surface as well as slate-coloured shales and a little laterite.	Moist in the north and west but dry, open forest in the south and south-east: Teak fairly distributed over the compartment but of poor growth. Bamboos principally *kyathaung* and *tinwa*; *myinwa*, *thaikwa*, and *waya* also occur.	Girdled teak trees	23	Good planting grounds occur along the Migyaung chaung and should be taken advantage of.
				Unsound teak above 1 foot diameter	97	
				Ditto below ditto	28	
				Sound teak 2½ feet diameter and above	89	
				Ditto 2 to 2½ feet diameter	93	
				Ditto 1½ to 2 feet ditto	162	
				Ditto 1 to 1½ feet ditto	540	
				Ditto below 1 foot ditto, dominant ...	968	
				Ditto ditto ditto, suppressed ...	108	
				Pyinma trees 1 foot diameter and above	651	
				Pyingado ditto ditto	2,845	
				Kanyin ditto ditto	43	
				All others ditto ditto ...	11,314	
9	689	Generally similar to compartment 8. *Soil.*—On the whole better, being a light sandy loam in the east of the compartment.	Moist. Bamboos principally *kyathaung* with a little *tinwa*, *waya* and *thaikwa*; there is a dense growth of young *tinwa* in parts. Teak fairly abundant and of good growth.	Girdled teak trees	42	The teak occurs in patches; the intervening spaces should be planted up.
				Unsound teak above 1 foot diameter	34	
				Ditto below ditto	21	
				Sound teak 2½ feet diameter and above	179	
				Ditto 2 to 2½ feet diameter	153	
				Ditto 1½ to 2 feet ditto	344	
				Ditto 1 to 1½ feet ditto	365	
				Ditto below 1 foot ditto, dominant ...	2,129	
				Ditto ditto ditto, suppressed ...	238	
				Pyinma trees 1 foot diameter and above	557	
				Pyingado ditto ditto	2,988	
				Kanyin ditto ditto	47	
				All others ditto ditto	14,501	
10	678	Ground gently undulating throughout the compartment. A few flat *kwins* occur	Generally dry. Bamboos *thaikwa* and *myinwa* most abundant, *kyathaung* and *tinwa* rather scarce; open forest without bamboo covers a considerable area. Teak	Girdled teak trees	47	The teak in this compartment is much attacked by creepers
				Unsound teak trees 1 foot diameter and above ...	71	
				Ditto ditto ditto below ...	35	

		where cultivation was formerly practised on a small scale. *Soil.*—Generally a stiff loam, becoming distinctly clayey where the ground is flat. Laterite occurs in small ridges occasionally.	on the whole plentiful, occurring in patches. Teak stumps are numerous and pônzos occur.	Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Cutch ditto ditto ... ... All others ditto ditto	131 263 747 995 3,035 143 960 3,595 4 18,848	which ought to be cut.
11	430	Gently undulating throughout. *Soil.*—Generally a stiff loam, becoming distinctly clayey where the ground is flat. Laterite occurs in small ridges occasionally.	Dry forest throughout. Bamboos absent over a considerable area, especially on the low ridge in the centre; elsewhere *thaikwa* and *myinwa* occur. Teak fairly abundant. Stumps are numerous and there was a good deal of refuse timber lying about.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... All others ditto ditto	19 65 58 74 149 237 617 1,300 123 1,046 1,121 9,363	
12	548	Generally flat or slightly undulating. *Soil.*—A stiff loam.	Generally dry; mostly open forest without bamboo; *thaikwa* and *myinwa* occur. Teak is scarce in the compartment.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Cutch ditto ditto ... ... All others ditto ditto	6 6 27 81 105 162 183 411 51 2,514	There is plenty of ground available for planting. The existing plantations are fairly well stocked but require weeding. There is a patch of about 10 acres of land near the north boundary of the compartment at the corner of compartments 12, 13, and 14 now under paddy-cultivation, the right to this having been granted to Maung Shwe Nwe, the headman of Sèywa, about four years ago.
13	401	Ground very gently undulating; nearly level. *Soil.*—Generally a stiff loam with a little laterite.	Forest generally dry. Bamboos principally *thaikwa; myinwa, tinwa* and *kyathaung* occur; open forest without bamboos also occurs. Teak is fairly abundant but patchy.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto	7 82 16	There are good planting grounds on the Thindaing chaung.

DESCRIPTION OF COMPARTMENTS IN WEST MINHLA BLOCK, MINHLA WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	No.	
				Sound teak 2½ feet diameter and above	23	
				Ditto 2 to 2½ feet diameter	105	
				Ditto 1½ to 2 feet ditto	242	
				Ditto 1 to 1½ feet ditto	326	
				Ditto below 1 foot ditto, dominant ...	844	
				Ditto ditto ditto, suppressed .	96	
				Pyinma trees 1 foot diameter and above	277	
				Pyingado ditto ditto	970	
				Cutch ditto ditto	49	
				All others ditto ditto	5,880	
14	321	Ground very gently undulated; nearly level. *Soil.*—Generally a stiff loam with a little laterite.	Similar to compartment 13. Very little teak ...	Unsound teak above 1 foot diameter	45	About half the compartment is under plantations, which are none of them very well stocked except those planted in 1884. The weeding of these plantations ought to be carefully attended to and attention paid to creeper-cutting.
				Sound teak 2½ feet diameter and above	80	
				Ditto 2 to 2½ feet diameter	48	
				Ditto 1½ to 2 feet ditto	14	
				Ditto 1 to 1½ feet ditto	86	
				Pyinma trees 1 foot diameter and above	90	
				Pyingado ditto ditto	350	
				Cutch ditto ditto	38	
				All others ditto ditto	1,718	
15	559	Gently undulating in the north, rising gradually to the south and south-east to the Mokka-Minhla watershed. *Soil.*—A stiff loam on the low ground, more sandy on the hills to the south.	Forest moist on the low ground to dry on the hills. Teak not very plentiful.	Girdled teak trees	3	About two-thirds of the compartment is under plantations; they are, with a few exceptions, in good condition. Planting ought to be gone on with, the teak in the compartment being very scattered.
				Unsound teak above 1 foot diameter	40	
				Sound teak 2½ feet diameter and above	15	
				Ditto 2 to 2½ feet diameter	25	
				Ditto 1½ to 2 feet ditto	90	
				Ditto 1 to 1½ feet ditto	274	
				Pyinma trees 1 foot diameter and above	112	
				Pyingado ditto ditto	517	
				Kanyin ditto ditto	21	
				In ditto ditto	13	
				Cutch ditto ditto	70	
				All others ditto ditto	2,321	

16	570	Similar to compartment 15. *Soil.*—A stiff loam on the low ground, more sandy on the hills to the south. Laterite occurs in the Thindaing chaung and its feeders.	Forest moist on the low ground, dry too on the hills. A little indaing occurs on the boundary of the reserve. Teak very scarce. *Cutch* is fairly plentiful but mostly young trees. Bamboos mostly *thaikwa* and *myin*; a little *tinwa*, *waya*, and *kyathaung*.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Kanyin ditto ditto ... ... Ingyin and thiya ditto ditto ... ... In ditto ditto ... ... Cutch ditto ditto ... ... All others ditto ditto	7 5 7 18 23 77 210 14 168 4 74 100 45 1,016	The plantations cover about two-thirds of the area of the compartment they are as a rule good, but weeding and creeper-cutting are wanted. There is room for more plantations.
17	552	Hilly, with a general rise to the south-east. No steep slopes. *Soil.*—Generally a good sandy loam, more clayey along the Minhla chaung.	Moist in the valleys and along the streams to dry on the hills. Not much teak. Bamboo principally *kyathaung*, *tinwa* and *thaikwa* in parts.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Kanyin ditto ditto ... ... Ingyin and thiya ditto ditto ... ... All others ditto ditto	22 64 10 35 86 158 505 31 411 4 1 1,532	More than half the compartment is under plantations. They are fairly well stocked on the whole, with the exception of those cut last year, the failures being principally on the lower slopes of the hills.
18	550	Hilly. The ridge between the Yènan and Apogyi chaungs is fairly high, some steep slopes. *Soil.*—Generally a good loam.	Forest moist. Bamboos *kyathaung* and *tinwa*. Most of the forest consists of old pònzos with a solitary teak tree here and there.	Unsound teak above 1 foot diameter ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet ditto ... ... Ditto 1½ to 2 feet diameter ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Kanyin ditto ditto ... ... All others ditto ditto	5 5 ... 10 5 10 5 35 1,025 35 1,230	
19	1,700	Generally hilly. There is low ground by the main Minhla stream, then there is a steady rise to the Shweletaung ridge in the north-east of the compartment; slopes steep at times.	Moist; inclined to dry on the higher hills and ridges. Pònzos occur all over the compartment except in the north-east quarter where teak is plentiful and of good growth. In the west of the compartment a few patches of teak occur.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ...	128 19 114 284 228 832 712	

DESCRIPTION OF COMPARTMENTS IN WEST MINHLA BLOCK, MINHLA WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	No.	
		Soil.—A sandy loam, rocky on the ridges, and the Shweletaung. Sandy shales occur occasionally.		Sound teak below 1 foot diameter, suppressed ...	874	
				Pyinma trees 1 foot diameter and above	52	
				Pyingado ditto ditto	1,936	
				Kanyin ditto ditto	15	
				All others ditto ditto	7,733	
20	1,376	Hilly throughout. The slopes to the Hlèdon and Tatuma chaungs are in places very steep. The beds of the streams are rocky and much obstructed by *kadins*. *Soil.*—A rich loam.	Moist. Along the streams evergreen forest occurs with palms and *wanuè* or *wathabwot*. What teak there is in the compartment is confined to the tops of the hills.	Unsound teak above 1 foot diameter	5	
				Sound teak 2½ feet diameter and above	6	
				Ditto 2 to 2½ feet diameter	11	
				Ditto 1½ to 2 feet ditto	32	
				Ditto 1 to 1½ feet ditto	82	
				Ditto below 1 foot ditto, dominant ...	35	
				Ditto ditto ditto, suppressed ...	56	
				Pyinma tress 1 foot diameter and above	18	
				Pyingado ditto ditto	216	
				Kanyin ditto ditto	19	
				All others ditto ditto	2,412	
21	509	Very hilly; steep slopes at the sources of the Wungè and Tatuma chaungs. *Soil.*—A good loam, rocky on the ridges and steep slopes.	Moist; nearly the whole compartment is pônzo. A little teak occurs on the boundary of the reserve.	Girdled teak trees	2	
				Sound teak 1½ to 2 feet diameter	2	
				Ditto below 1 foot diameter, dominant ...	2	
				Pyinma trees 1 foot diameter and above	10	
				Pyingado ditto ditto	108	
				Kanyin ditto ditto	8	
				All others ditto ditto	1,118	
22	305	Very hilly; slopes to the Tatuma chaung very steep at times. The chaung is very rocky and contains numerous kadins. *Soil.*—A rich loam, with sandstone blocks appearing on the surface.	Along the Tatuma chaung the forest is evergreen and is moist all over the compartment. Bamboos principally *kyathaung* with *tinwa* and *waya*; *canes* and *wathabwot* occur along the stream. Teak is of good growth and fairly plentiful on the hills, especially along the Môkka-Minhla watershed.	Unsound teak above 1 foot diameter	117	The Tatuma chaung is at present unfit for working timber. It must be cleared of obstructions when girdling is carried out in this compartment.
				Ditto below ditto	27	
				Sound teak 2½ feet diameter and above	279	
				Ditto 2 to 2½ feet diameter	207	
				Ditto 1½ to 2 feet ditto	171	
				Ditto 1 to 1½ feet ditto	450	
				Ditto below 1 foot ditto, dominant ...	540	
				Ditto ditto ditto, suppressed ...	666	
				Pyingado trees 1 foot diameter and above ...	900	
				All others ditto ditto	2,682	

23	358	Hilly. Slopes from the Kagyindaung and Leikdaung ridges very steep in places. The Thitpôk chaung is rocky. *Soil.*—Sandy loam near the Thitpôk chaung, very loose sandy shales on the slopes. *Limestone* pebbles occur in the bed of the stream.	Forest moist along the streams and in sheltered ravines, very dry on the slopes and hills. Bamboos *kyathaung* in the moist parts, flowered *myinwa* on the dry hills and slopes. Teak plentiful though large trees are far the most numerous; many of the big trees are burnt at the roots and ficus abound.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Kanyin ditto ditto ... ... All others ditto ditto	40 109 10 265 374 365 962 296 1,534 57 1,211 10 6,073	Creeper-cutting must be attended to and efforts made to help natural re-generation which is poor. Spaces where *myinwa* has flowered should be planted up. Obstructions in the Thitpôk chaung to be cleared.
24	862	Hilly. Slopes from the Shweletaung ridge; steep in places. *Soil.*—A good loam along the main stream, sandy shales on the slopes and hills.	Generally moist, dry on parts of the Kagyindaung ridge. Bamboos *kyathaung* and *thaikwa*; a little *tinwa* and *myinwa* in flower. Teak plentiful and of good growth, but many trees attacked by creepers and ficus.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... All others ditto ditto	37 167 31 105 217 229 799 768 2,492 62 1,165 4,230	See compartment 23.
25	428	Hilly. Slopes very steep but workable. The Swelwe chaung is easy for working, there being a dragging-path along it. The Mingyun chaung is rocky in places. *Soil.*—Sandy loam by the streams, shales on the slopes, rocky on the ridges.	Moist near the streams to dry on the slopes and ridges. Bamboos, *kyathaung* in the moist and *myinwa* in flower in the dry forest, a little *telyu-wa*. Teak of good growth and well distributed; natural regeneration poor.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed ... Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... All others ditto ditto	12 134 36 170 341 402 634 744 1,366 36 744 2,855	See compartment 23.
26	549	Hilly. A little flat ground near the Minhla chaung, but the slopes are abrupt and in places very steep. *Soil.*—Sandy loam near the streams, shales on the slopes and ridges, rocky in parts.	Moist near the streams and in sheltered ravines to dry on the slopes and ridges. Bamboos, near the streams *kyathaung* with a little *tinwa* and *waya*, elsewhere *myinwa* in flower. Teak plentiful and of very good growth, but the number of large trees is out of all proportion to that of the smaller classes. The ingyin and thiya were found near the sources of the	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto	17 94 41 502 620 974 1,003	Natural regeneration must be helped in every possible way. Areas where bamboo has flowered to be planted up.

DESCRIPTION OF COMPARTMENTS IN WEST MINHLA BLOCK, MINHLA WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	No.	
			Mingyun chaung, the ridge here is high and the forest very dry.	Sound teak below 1 foot diameter, dominant ...	1,141	
				Ditto ditto ditto suppressed ...	1,859	
				Pyinma trees 1 foot diameter and above ...	138	
				Pyingado ditto ditto	1,418	
				Ingyin and thiya 1 foot ditto	135	
				All others ditto ditto	7,890	
27	316	Hilly. The slopes from the Kagyindaung kyaw very steep at times : there is a dragging-path along this ridge. The Ngapogyi chaung is generally pretty clear of obstructions. *Soil.*—Sandy loam near the main stream, loose shales on the slopes, rocky at times on the ridge.	Dry except just near the main stream and the Ngapogyi chaung, where it becomes slightly moister. Bamboos principally *myinwa* in flower ; near the streams a little *kyathaung*, *thaikwa*, and *talaguwa*. Teak of good growth but the large trees are often injured by fire. Teak stumps are numerous in the compartment but mostly along the ridge.	Unsound teak above 1 foot diameter	93	Creeper-cutting necessary.
				Ditto below ditto	24	
				Ditto 2½ feet diameter and above	44	See compartment 26.
				Ditto 2 to 2½ feet diameter	151	
				Ditto 1½ to 2 feet ditto	445	
				Ditto 1 to 1½ feet ditto	818	
				Ditto below 1 foot ditto, dominant ...	882	
				Ditto ditto ditto, suppressed ...	2,123	
				Pyinma trees 1 foot diameter and above	9	
				Pyingado ditto ditto	935	
				Ingyin and thiya ditto ditto	29	
				All others ditto ditto	3,062	
28	320	Hilly, slopes rather steep. The Ngapogyi chaung is rocky in places but on the whole good for dragging. *Soil.*—Similar to compartment 27.	Forest generally moist, except on the ridge where it is drier. Bamboos principally *kyathaung* with a little *thaikwa*, *talaguwa* and *waya; myinwa* on the ridge. Teak of good growth but very few young trees.	Unsound teak above 1 foot diameter	132	See compartment 26.
				Ditto below ditto	26	
				Sound teak 2½ feet diameter and above	88	
				Ditto 2 to 2½ feet diameter	202	
				Ditto 1½ to 2 feet ditto	264	
				Ditto 1 to 1½ feet ditto	334	
				Ditto below 1 foot ditto, dominant ...	387	
				Ditto ditto ditto, suppressed ...	228	
				Pyinma trees 1 foot diameter and above	96	
				Pyingado ditto ditto	960	
				All others ditto ditto	3,150	
29	369	Hilly, but no steep slopes ; a dragging-path along the ridge between the Yingan and Ngapogyi chaung. *Soil.*—Generally a good loam, soft sandy shales on the ridge.	Forest generally moist, dry on the ridge and higher slopes. Bamboos on the low ground, *kyathaung*, *tinwa*, *thaikwa*, *waya* on the ridge, *myinwa* in flower. Teak most plentiful on the high ground. Stumps of trees girdled in 1874 fairly numerous. Young stocks very deficient.	Girdled teak trees	6	See compartment 26.
				Unsound teak above 1 foot diameter	33	
				Sound teak 2½ feet diameter and above	78	
				Ditto 2 to 2½ feet ditto	165	
				Ditto 1½ to 2 feet ditto	224	
				Ditto 1 to 1½ feet ditto	408	

				Sound teak below 1 foot diameter, dominant ...	672	
				Ditto ditto ditto, suppressed ...	429	
				Pyinma trees 1 foot diameter and above ...	165	
				Pyingado ditto ditto	1,148	
				All others ditto ditto	4,863	
30	402	Hilly but slopes not steep. *Soil.*—A good sandy loam, sandy shales in parts.	Forest moist except on the ridge where it is inclined to dry. Bamboos as in compartment 29. Teak most plentiful on the hills. Stumps of trees girdled in 1874 occur and some logs partially dragged were seen.	Girdled teak trees	20	See compartment 26.
				Unsound teak above 1 foot diameter	180	
				Ditto below ditto	20	
				Sound teak 2½ feet diameter and above	140	
				Ditto 2 to 2½ feet diameter	230	
				Ditto 1½ to 2 feet ditto	480	
				Ditto 1 to 1½ feet ditto	830	
				Ditto below 1 foot ditto, dominant...	790	
				Ditto ditto ditto, suppressed	1,120	
				Pyinma trees 1 foot diameter and above	280	
				Pyingado ditto ditto	1,720	
				All others ditto ditto	7,200	
31	455	Hilly, slopes not steep except at the source of the Yindeik chaung. *Soil.*—Loamy near the chaung, elsewhere shales which become slaty near the Sè-obyauk ridge.	Forest for the most part moist, dry on the ridge running through the compartment and on the slopes from the Sè-obyauk ridge. Bamboos *kyathaung*, *thaikwa*, and *tinwa* near the streams, *myinwa* flowering in patches on the ridges. Teak most plentiful on the hills.	Girdled teak trees	37	See compartment 26.
				Unsound teak above 1 foot diameter	148	
				Ditto below ditto	37	
				Sound teak 2½ feet diameter and above	328	
				Ditto 2 to 2½ feet diameter	595	
				Ditto 1½ to 2 feet ditto	545	
				Ditto 1 to 1½ feet ditto	558	
				Ditto below 1 foot ditto, dominant...	788	
				Ditto ditto ditto, suppressed	967	
				Pyinma trees 1 foot diameter and above	148	
				Pyingado ditto ditto	1,290	
				All others ditto ditto	4,910	
32	876	Hilly. The slopes from the Sè-obyauk chaung are at first easy and workable, but they suddenly run up very abruptly to the main Sè-obyauk ridge and are at times almost precipitous. The ridge is exceedingly narrow in places, being nothing but a bare wall of sandstone dipping east to west. *Soil.*—On the steep slopes very loose slaty shales, becoming more sandy lower down with loam as usual near the stream.	Forest from moist along the stream to exceedingly dry on the Se-obyauk ridge. On this ridge there is only a little stunted *myinwa* along the stream and on some of the lower slopes *kyathaung*, *thaikwa* and *tinwa* occur. Teak in the very dry forest of very poor growth, elsewhere good and plentiful. The cutch was found in the north-west corner of the compartment.	Girdled teak trees	40	There is a dragging-path along the Sè-obyauk chaung in which there are some rocky obstructions which should be removed.
				Unsound teak above 1 foot diameter	109	
				Ditto below ditto	26	
				Sound teak 2½ feet diameter and above	260	
				Ditto 2 to 2½ feet diameter	239	
				Ditto 1½ to 2 feet ditto	384	
				Ditto 1 to 1½ feet ditto	858	
				Ditto below 1 foot ditto, dominant ...	618	
				Ditto ditto ditto, suppressed ...	998	
				Pyinma trees 1 foot diameter and above	98	
				Pyingado ditto ditto	788	
				Ingyin and thiya ditto ditto	10	
				Cutch ditto ditto	270	
				All others ditto ditto	3,432	

DESCRIPTION OF COMPARTMENTS IN WEST MINHLA BLOCK, MINHLA WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	No.	
33	484	Hilly. Slopes from the Sè-o-byauk ridge steep but elsewhere moderate. *Soil.*—Similar to compartment 32.	The forest is not very dry except on the higher slopes to the Sè-obyauk ridge. Bamboos principally *myinwa*; along the main stream *kyathaung*, *tin* and *thaik*. There is some very fine teak in the compartment.	Girdled teak trees	12	
				Unsound trees above 1 foot diameter	111	
				Ditto below ditto	74	
				Sound trees 2½ feet diameter and above	384	
				Ditto 2 to 2½ feet diameter	272	
				Ditto 1½ to 2 feet ditto	620	
				Ditto 1 to 1½ feet ditto	1,102	
				Ditto below 1 foot diameter, dominant ...	644	
				Ditto below 1 foot ditto, suppressed...	1,240	
				Pyinma trees 1 foot diameter and above ...	37	
				Pyingado ditto ditto ...	1,164	
				All others ditto ditto ...	4,604	
34	295	Hilly, slopes at times steep, but timber can come out everywhere. The sources of the Yingan chaung are rather rocky, *Soil.*—A sandy loam, shales on the higher slopes.	Forest fairly dry throughout the compartment, moister near the streams and in sheltered ravines. Bamboos principally *myinwa*, some *kyathaung*, *thaik* and *tin* in the moister parts. Teak of good growth. A contractor was at work in the compartment at time of examination. Teak stumps numerous.	Girdled teak trees	8	
				Unsound teak above 1 foot diameter	124	
				Ditto below ditto	12	
				Sound teak 2½ feet diameter and above	56	
				Ditto 2 to 2½ feet ditto	196	
				Ditto 1½ to 2 feet ditto	448	
				Ditto 1 to 1½ feet ditto	768	
				Ditto below 1 foot ditto, dominant.	756	
				Ditto ditto ditto, suppressed.	1,016	
				Pyinma trees 1 foot diameter and above ...	92	
				Pyingado ditto ditto ...	972	
				Ingyin and thiya ditto ditto ...	8	
				All others ditto ditto ...	3,688	
35	261	Hilly. The slopes up to the ridge between the Seingale chaung and the main stream are steep but workable. There is a footpath leading over the Yoma which follows the Seingale chaung almost to its source. The ascent after leaving the bed of the	Forest inclined to moist everywhere except on the ridge between the Seingale and main streams where it is dry. Teak of the bigger classes plentiful and of good growth, especially on the Yoma, but young trees few and far between. Bamboos *myin* in the dry and *kyathaung* with a little *thaik* and *tin* in the moister parts.	Unsound teak above 1 foot diameter	66	
				Ditto below ditto	14	
				Sound teak 2½ feet diameter and above ...	144	
				Ditto 2 to 2½ feet diameter ...	315	
				Ditto 1½ to 2 feet ditto ...	363	
				Ditto 1 to 1½ feet ditto ...	528	
				Ditto below 1 foot ditto, dominant ...	594	
				Ditto ditto ditto, suppressed ...	693	
				Pyinma trees 1 foot diameter and above ...	13	

		stream is fairly steep, but the road might with little trouble be made practicable for elephants. *Soil.*—Similar to compartment 34.		Pyingado trees 1 foot diameter and above ...	645	
				All others ditto ditto ...	8,582	
36	263	Hilly, no steep slopes except close to the Yoma. The feeders of the Seingale chaung are very rocky and obstructed. *Soil.*—Generally a rich loam, sandy shales on the steep slopes.	Forest fairly moist except on some exposed slopes and ridges. Bamboos mostly *kyathaung*, a little *myin*. Teak not very plentiful; the bamboo jungle is at times very dense.	Unsound teak above 1 foot diameter	65	
				Ditto below ditto	49	
				Sound teak 2½ feet diameter and above	131	
				Ditto 2 to 2½ feet diameter	65	
				Ditto 1½ to 2 feet ditto	180	
				Ditto 1 to 1½ feet ditto	213	
				Ditto below 1 foot ditto, dominant	229	
				Ditto ditto ditto, suppressed	246	
				Pyinma trees 1 foot diameter and above	32	
				Pyingado ditto ditto	262	
				Ingyin and thiya ditto ditto	295	
				All others ditto ditto	1,622	
37	613	Hilly. Slopes from the Sè-obyauk and main Yoma ridges very steep, but timber can be worked along many of the spurs. The Sè-obyauk ridge is workable along its south portion. The Wasittho chaung is one series of rocky obstructions, and is only workable where it forms the boundary between compartments 36 and 38.	Forest dry except in the immediate vicinity of the stream; very dry on the Sè-obyauk ridge, slightly moister on the Yoma. Bamboos *myinwa* in flower except just near the stream where *kyathaung* occurs. Teak of very poor growth in the very dry forest, better on the lower slopes; the younger classes better represented than usual.	Girdled teak trees	23	The obstructions in the Wasittho chaung must be removed before much timber can come out of the compartment.
				Unsound teak above 1 foot diameter	424	
				Ditto below ditto	165	
				Sound teak 2½ feet diameter and above	330	
				Ditto 2 to 2½ feet diameter	212	
				Ditto 1½ to 2 feet ditto	755	
				Ditto 1 to 1½ feet ditto	1,250	
				Ditto below 1 foot ditto, dominant	1,180	
				Ditto ditto ditto, suppressed	1,604	
				Pyinma trees 1 foot diameter and above	28	
				Pyingado ditto ditto	778	
				Ingyin and thiya ditto ditto	731	
				All others ditto ditto	8,071	
38	498	Similar to compartment 37 ...	Similar to compartment 37. Young teak not so plentiful.	Girdled teak trees	16	The portion of the North Minhla stream flowing through this compartment is very much obstructed by rocky kadins and must be cleared.
				Unsound teak above 1 foot diameter	421	
				Ditto below ditto	72	
				Sound teak 2½ feet diameter and above	194	
				Ditto 2 to 2½ feet ditto	413	
				Ditto 1½ to 2 feet diameter	421	
				Ditto 1 to 1½ feet ditto	729	
				Ditto below 1 foot ditto, dominant ...	494	
				Ditto ditto ditto, suppressed ...	801	
				Pyinma trees 1 foot diameter and above	40	
				Pyingado ditto ditto	947	
				Ingyin and thiya ditto ditto	40	
				All others ditto ditto	4,212	

DESCRIPTION OF COMPARTMENTS IN WEST MINHLA BLOCK, MINHLA WORKING CIRCLE—continued.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	No.	
39	891	Hilly, slopes nowhere very steep. *Soil.*—A sandy shale, slaty at times.	Forest dry except along the lower portion of the streams, in sheltered ravines, and on the plateau in the centre of the compartment. Bamboos principally *myinwa*, a little *thaik* and *tin* near the streams. Teak good; young growth deficient as usual.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... . Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant ... Ditto ditto ditto, suppressed . Pyinma trees 1 foot diameter and above ... .. Pyingado ditto ditto ... ... Ingyin and thiya ditto ditto ... ... All others ditto ditto	300 64 270 202 634 604 796 918 246 722 43 6,014	The obstructions in the feeders of the North Minhla, which drain the compartment must be removed. There is an old disused road over the Yoma through the compartment.
40	538	Hilly. The immediate slopes from the Sè-obyauk ridge are at times very steep, but elsewhere they are all workable. *Soil.*—Sandy shales, in places a very friable, dark grey shale occurs.	Forest dry, very dry on some of the steeper slopes on the grey shales. Bamboos *myinwa*, a few clumps of *kyathaung* and *thaik* near the streams. Teak plentiful but generally of poor growth. Most of the trees are injured by fire and the proportion of unsound trees and trees attacked by creepers is very large.	Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant. Ditto ditto ditto, suppressed. Pyinma trees 1 foot diameter and above ... ... Pyingado ditto ditto ... ... Ingyin and thiya ditto ditto ... ... All others ditto ditto	470 231 201 327 709 1,381 2,175 2,376 365 987 340 6,804	Creeper-cutting is badly wanted in this compartment.
41	509	Hilly, slopes from the Seindaung ridge very steep, precipitous in places. Elsewhere the slopes are steep but workable. The banks of the main stream are often very high and steep. *Soil.*—Very sandy shales.	Forest very dry all over the compartment except a narrow strip along the North Minhla stream, which is fairly moist. Teak plentiful but trees much injured by fire and attacked by creepers. Bamboos principally *myin*, a little *kyathaung*, *thaik*, and *talagu* along the stream. Cutch is fairly plentiful in the compartment.	Girdled teak trees ... ... Unsound teak above 1 foot diameter ... ... Ditto below ditto ... ... Sound teak 2½ feet diameter and above ... ... Ditto 2 to 2½ feet diameter ... ... Ditto 1½ to 2 feet ditto ... ... Ditto 1 to 1½ feet ditto ... ... Ditto below 1 foot ditto, dominant Ditto ditto ditto suppressed Pyinma trees 1 foot diameter and above	11 357 91 136 296 586 1,390 1,772 2,126 170	Creeper-cutting necessary.

				Pyingado trees 1 foot diameter and above	838
				Ingyin and thiya ditto	575
				Cutch ditto	513
				All others ditto	7,193
42	611	Hilly, slopes nowhere too steep to work. *Soil.*—A good loam on the low ground, elsewhere the usual sandy shales.	Forest moist near the streams and in the south half of the compartment, elsewhere dry. Bamboos *kyathaung* and *thaik* in the moist and *myin* in the dry forest. Teak of fair growth, but young stock not plentiful. The estimate of the amount of cutch in the compartment is very low; it is plentiful in the north near the sources of the Myauk-hla chaung, where no counting could be made owing to an error in the map.	Girdled teak trees	10
				Unsound teak above 1 foot diameter	273
				Ditto below ditto	126
				Sound teak 2½ feet diameter and above	220
				Ditto 2 to 2½ feet diameter	231
				Ditto 1½ to 2 feet ditto	651
				Ditto 1 to 1½ feet ditto	1,417
				Ditto below 1 foot ditto, dominant ...	471
				Ditto ditto ditto, suppressed ...	945
				Pyinma trees above 1 foot diameter	462
				Pyingado ditto ditto	1,732
				Ingyin and thiya ditto ditto	10
				Cutch ditto ditto	42
				All others ditto ditto	8,557
43	413	Hilly, slopes all workable, rather steep from the ridge to the west of the Myatawè chaung. *Soil.*—Good loam near the main stream, sandy shales on the slopes.	Forest dry on the ridges, moist on the lower slopes and along the streams. Bamboos *myin* in the dry, *kyathaung*, *talagu* and *tin* in the moist forest. Teak plentiful and of good growth.	Girdled teak trees	25
				Unsound teak above 1 foot diameter	266
				Ditto below ditto	102
				Sound teak 2½ feet diameter and above	387
				Ditto 2 to 2½ feet diameter	464
				Ditto 1½ to 2 feet ditto	678
				Ditto 1 to 1½ feet ditto	568
				Ditto below 1 foot ditto, dominant ...	1,419
				Ditto ditto ditto, suppressed ...	1,967
				Pyinma trees 1 foot diameter and above	120
				Pyingado ditto ditto	1,159
				Ingyin and thiya ditto ditto	94
				All others ditto ditto	4,832
44	678	Hilly, no slopes too steep to work, flat ground occurs along the north Minhla stream, the banks being very high in places. The bed of the main stream in the big bend just below the mouth of the Hugetpyawdôn chaung is very rocky. *Soil.*—A rich loam on the low ground and near the streams. On the slopes sandy shales, slaty in places.	Forest moist on the low ground and along the streams, moderately dry on the higher slopes and ridges. Bamboos principally *myin*, *kyathaung*, and *tin*, where the forest is moist. Teak good.	Girdled teak trees	28
				Unsound teak above 1 foot diameter	407
				Ditto below ditto	207
				Sound teak 2½ feet diameter and above	538
				Ditto 2 to 2½ feet diameter	696
				Ditto 1½ to 2 feet ditto	828
				Ditto 1 to 1½ feet ditto	1,290
				Ditto below 1 foot ditto, dominant ...	1,255
				Ditto ditto ditto, suppressed ...	2,380
				Pyinma trees 1 foot diameter and above	448
				Pyingado ditto ditto	2,470
				Ingyin and thiya ditto ditto	41
				All others ditto ditto	9,639

The rocks in the North Minhla stream below the mouth of the Hugetpyawdôn chaung should be cleared away.

DESCRIPTION OF COMPARTMENTS IN WEST MINHLA BLOCK, MINHLA WORKING CIRCLE—concluded.

Compartment No.	Area in acres.	Configuration and soil.	General character of forest.	Estimate of growing stock.		Remarks.
				Description of trees.	No.	
45	488	Hilly, slopes nowhere steep except those from the north and south Minhla watershed at the sources of the Sintho chaung. Flat ground along the main and Sintho streams. *Soil.*—Generally sandy shales covered on the steep slopes with sandstone blocks.	Forest moist near the main stream, moderately dry elsewhere. Bamboos *myin* on the ridges and higher slopes, *kyathaung*, *thaik*, *tin*, and *talagu* along the streams. Teak good.	Girdled teak trees	6	The obstructions in the Hngetpyawdôn chaung must be removed.
				Unsound teak above 1 foot diameter	227	
				Ditto below ditto	45	
				Sound teak 2½ feet diameter and above	351	
				Ditto 2 to 2½ feet diameter	526	
				Ditto 1½ to 2 feet ditto	526	
				Ditto 1 to 1½ feet ditto	806	
				Ditto below 1 foot ditto, dominant ...	780	
				Ditto ditto ditto, suppressed ...	1,443	
				Pyinma trees 1 foot diameter and above	214	
				Pyingado ditto ditto	1,410	
				All others ditto ditto	5,700	
46	544	Hilly, no very steep slopes. There is a big kadin in the Nga-in stream and it is generally very rocky. *Soil.*—Sandy loam with sandstone blocks on the surface, shaly on the slopes.	Forest dry on the ridges and slopes, moist near the streams and in sheltered ravines. Bamboos *kyathaung*, *tiñ*, *myin*, and *waya* in flower. Teak of good growth but mostly large trees.	Girdled teak trees	30	The big kadin and the rocky obstructions in the Nga-in chaung must be removed.
				Unsound teak above 1 foot diameter	271	
				Ditto below ditto	30	
				Sound teak 2½ feet diameter and above	588	
				Ditto 2 to 2½ feet diameter	483	
				Ditto 1½ to 2 feet ditto	317	
				Ditto 1 to 1½ feet ditto	634	
				Ditto below 1 foot ditto, dominant ...	483	
				Ditto ditto ditto, suppressed ...	1,585	
				Pyinma tress 1 foot diameter and above	15	
				Pyingado ditto ditto	1,615	
				Ingyin and thiya ditto ditto	256	
				All others ditto ditto	8,018	
47	528	Hilly, slopes from the Shawbyu ridge steep at times. *Soil.*—Loamy near the streams sandy shales on the slopes with sandstone blocks on the surface occasionally.	Forest dry on the ridges and high slopes, moist near the streams, almost evergreen in one or two places. Bamboos principally *kyathaung* and *myin*, a little *tin* and *talagu*. Teak good.	Girdled teak trees	6	
				Unsound teak above 1 foot diameter	165	
				Ditto below ditto	39	
				Sound teak 2½ feet diameter and above	349	
				Ditto 2 to 2½ feet diameter	349	
				Ditto 1½ to 2 feet ditto	323	
				Ditto 1 to 1½ feet ditto	534	
				Ditto below 1 foot ditto, dominant ...	573	
				Ditto ditto ditto, suppressed...	1,273	

				Pyinma trees above 1 foot diameter	39
				Pyinkado ditto ditto	943
				All others ditto ditto	3,741
48	618	Hilly, no very steep slopes. *Soil.*—Similar to compartment 47.	Similar to compartment 47. Young teak trees more abundant.	Unsound teak above 1 foot diameter	268
				Ditto below ditto	134
				Sound teak 2½ feet diameter and above ...	259
				Ditto 2 to 2½ feet ditto ...	357
				Ditto 1½ to 2 feet ditto ...	347
				Ditto 1 to 1½ feet ditto ...	1,190
				Ditto below 1 foot ditto, dominant	1,814
				Ditto ditto ditto, suppressed	3,072
				Pyinma trees 1 foot diameter and above	134
				Pyinkado ditto ditto	2,457
				All others ditto ditto	10,098

APPENDIX II.

RECORD OF VALUATION SURVEYS, MINHLA WORKING CIRCLE, 1888.

Name of block.	No. of compartment.	Area in acres.	Girdled or dead teak trees.	Unsound green teak trees.		Sound green teak trees.						Trees other than teak, 1 foot in diameter and above.						
				Above 1 foot diameter.	Below 1 foot diameter.	2½ feet diameter and above.	2 to 2½ feet diameter.	1½ to 2 feet diameter.	1 to 1½ feet diameter.	Below 1 foot diameter, dominant.	Below 1 foot diameter, suppressed.	Pyinma.	Pyinkado.	Kanyin.	Ingyin or thiya.	In.	Sha.	All others.
Minhla.	1 I	88*	...	6	2	17	15	12	33	145	9	137	402	58	...	..	...	3,211
	II	117	...	...	...	...		...	1	1	...	110	595	30	...	...	...	2,850
	2 I	61	...	...	..	..		...	...	...	...	97	...	36	..	...	...	1,509
	II	81	...	...	...	...		.	...	...	...	196	2	88	1	...	...	2,681
	III	109	...	...	...	..		..	...	...	...	181	. .	31	...	...	...	2.442
	3 I	144	...	...	...	3	1	2	7	22	1	290	131	80	...	...	...	3,601
	II	120	...	...	...	...	...	...	...	...	..	154	746	67	...	..	...	2,984
	4 I	84	..	...	...	...	...	...	...	2	...	352	...	34	...	3	...	2,962
	II	79	..	...	...	...	...	.	2	12	3	268	...	103	...	...	...	2.611
	5 I	231	..	1	..	10	6	15	41	109	4	369	668	40	...	...	...	6,072
	6 I	259	1	16	7	34	50	87	89	487	35	150	1,502	10	...	...	...	5,200
	7 I	129	11*	27	10	27	79	106	142	816	17	207	883	3	...	...	...	4,493
	8 I	119	9†	26	8	6	19	38	131	217	30	52	297	...	...	...	...	1,407
	II	82	..	1	...	5	7	7	19	52	.	129	460	12	...	...	...	1,736
	9 I	70	4	6	2	16	16	37	54	274	27	55	348	.	...	...	...	1,536
	II	88	6	2	3	31	20	42	32	227	29	76	355	11	...	...	...	1,876
	10 I	80	1‡	8	5	12	34	108	136	415	15	80	421	...	...	...	1	1,884
	II	88	11†	10	4	21	32	79	113	344	21	160	478	...	...	...	...	2,828
	11 I	90	4	8	12	9	24	26	128	181	31	149	264	...	...	...	...	1,900
	II	44	2	12	6	14	22	47	62	219	7	173	81	...	...	...	...	981
	12 I	83	2	2	..	9	27	35	54	...	...	61	137	...	..	...	17	838
	13 I	89	2	7	7	5	19	58	87	202	32	72	240	...	...	...	6	1,437
	II	89	1	7	5	26	46	53		160	10	47	176	..	...	...	15	1,083
	14 I	92	..	13	..	9	14	4	25	...	...	26	100	...	...	...	11	491
	15 I	101	2† 1	23	...	4	7	24	78	...	...	57	121	1	...	10	52	1,010
	II	64	2† 1	9	..	5	12	43	128	...	...	27	267	15	...	...	...	731

	16 I	53	2† 3	4	6	12	17	46	128	...	...	7	76	...	18 13	...	4	398
	II	57	3† 2	...	...	1	...	9	22	...	...	3	42	...	22	72	28	328
	17 I	137	17	55	7	25	68	120	411	...	...	22	333	3	1	...	...	1,225
	II	42	5	9	3	10	18	38	94	...	...	9	78	1	...	...	...	307
Total	...	3,037*	92	252	81	300	535	1,029	2,070	3,885	271	3,624	8,203	623	54	85	34	62,612
Karen area.	18 I	49	...	1	...	1	...	2	1	2	1	7	205	7	...	...	...	446
	19 I	40	..	9	4	6	14	7	62	79	88	...	258	...	...	...	...	828
	II	71	...	25	1	24	48	53	157	109	142	14	278	4	...	...	...	1,211
	20 I	52	...	3	...	4	9	26	65	27	45	5	81	...	...	...	...	465
	II	57	...	...	...	...	...		...	...	...	3	59	6	...	...	...	475
	III	68	...	..	...	1	...	..	...	1 1	...	4	13	...	...	...	...	605
	IV	49	...	1	...	...	...	...	...	...	...	3	20	1	...	...	...	385
	21 I	31	1†	...	...	...	...	1	...	...	...	4	45	3	...	...	...	468
	II	34	...	...	...	...	...	...	...	1	...	1	9	1	...	...	...	91
Total	...	451	1	39	5	36	71	89	285	219	276	41	968	22	...	...	...	4,974
South Minhla.	22 I	34	...	13	3	31	23	19	50	60	74	...	100	...	...	...	...	298
	23 I	68	2† 8	21	2	51	72	71	185	57	295	11	233	2	...	...	...	1,168
	24 I	58	2† 6	27	5	17	35	37	129	124	402	10	188	...	...	...	...	683
	25 I	35	1	12	1	13	27	43	51	89	90	3	55	...	...	...	...	234
	26 I	59	2† 3	7	3	58	40	77	73	104	141	13	159	...	...	...	...	740
	II	33	...	9	4	28	66	89	87	90	175	11	79	...	5 18	...	...	513
	27 I	64	...	19	5	9	31	91	168	180	434	2	191	...	6	...	...	626
	28 I	36	...	15	3	10	23	30	38	44	26	11	108	...	...	...	...	358
	29 I	156	1† 1	5	...	12	25	34	62	102	65	25	174	...	...	...	...	737
	30 I	40	2† 1	15	2	16	21	50	76	61	109	26	176	...	...	...	...	720
Carried over	...	583	33	143	28	245	363	541	929	911	1,811	112	1,463	2	29	...	...	6,077

* *Nathat.* | † Hollow or bad. | ‡ Three not good.

RECORD OF VALUATION SURVEYS, MINHLA WORKING CIRCLE, 1888—concluded.

Name of block.	No. of compartment.	Area in acres.	Girdled or dead teak trees.	Unsound green teak trees.		Sound green teak trees.						Trees other than teak, 1 foot in diameter and above.						
				Above 1 foot diameter.	Below 1 foot diameter.	2½ feet diameter and above.	2 to 2½ feet diameter.	1½ to 2 feet diameter.	1 to 1½ feet diameter.	Below 1 foot diameter, dominant.	Below 1 foot diameter, suppressed.	Pyinma.	Pyinkado.	Kanyin.	Lugyin or thiya.	In.	Sha.	All others.
Brought forward		583	33	143	28	245	363	541	929	911	1,811	112	1,463	2	29	..	...	6,077
South Minhla.	31 I	38	1†, 4	8	2	26	57	52	58	48	64	11	74	...	...	....	...	870
	31 II	35	1†, 2	14	...	36	32	41	29	68	90	11	127	...	...	...	...	441
	32 I	27	...	11	4	10	21	23	94	89	107	2	42	...	2	...	...	259
	32 II	45	2†, 8	10	1	40	25	51	71	30	85	17	100	...	...	...	52	401
	33 I	39	1	9	6	31	22	50	89	52	100	3	94	...	...	...	...	323
	34 I	43	1	7	...	11	20	33	58	69	78	18	139	...	2	...	...	528
	34 II	30	1	24	3	3	29	79	134	120	181	5	104	...	...	...	...	394
	35 I	39	1†	10	2	22	48	55	80	90	105	2	98	...	...	...	...	543
	36 I	16	...	4	3	8	4	11	13	14	15	2	16	...	18	...	...	99
	37 I	26	1	18	7	14	9	32	53	50	68	1	33	...	31	...	...	342
Total	...	921	23	115	28	201	267	427	679	630	888	72	827	2	53	...	52	3,700
North Minhla.	38 I	27	...	26	...	3	14	11	31	36	42	...	23	...	...	...	..	148
	38 II	34	2†, 2	26	9	21	37	41	59	25	57	5	94	...	2, 3	...	...	372
	39 I	36	1†	28	6	25	19	59	56	74	85	23	67	...	4	...	...	557
	40 I	65	3	46	10	32	43	84	154	177	297	62	141	...	6	...	...	850
	40 II	60	...	66	45	16	35	85	175	341	257	25	94	...	75	...	...	770
	41 I	28	2†	14	7	7	15	51	82	127	50	10	27	...	2	...	90	373
	41 II	61	2	54	9	17	37	52	162	184	323	21	120	...	52, 47	...	...	889
	42 I	16	1†	10	7	11	5	15	27	29	17	11	39	...	1	...	...	153
	42 II	42	1†	16	5	10	17	47	108	54	73	33	126	...	...	...	4	662
	43 I	24	1, 3	13	5	28	30	37	38	60	131	8	64	...	...	...	...	349
	43 II	24	...	18	7	17	24	42	28	105	98	6	72	...	11	...	...	213

44	I	30	1	14	5	28	31	35	79	47	139	30	140	...	1	...	...	510
	II	28		13	21	28	20	27	32	49	71	22	104	...	1	...	...	399
	III	39	3	32	4	22	50	48	76	86	135	13	114	...	...	...	...	488
45	I	33	3†	13	...	26	28	35	58	54	88	20	99	...	4	...	...	414
	II	41	1	22	7	28	53	46	66	66	134	13	118	...	...	...	...	463
46	I	36	2 1†	18	2	39	32	21	42	32	105	1	107	...	17	...	...	531
47	I	43	1	15	2	24	21	29	40	39	106	6	90	...	...	...	...	319
	II	37	...	10	4	29	32	20	41	48	88	...	53	...	...	...	...	248
48	I	37	...	10	3	17	15	16	47	96	153	10	96	...	...	...	...	473
	II	29	...	18	11	10	23	21	77	93	167	4	160	...	...	...	...	579
Total	...	770	30	482	169	438	581	822	1,478	1,822	2,516	323	1,948	...	226	...	94	9,76

† Hollow or bad.

APPENDIX III.

MINHLA IN ARAKING CIRCLE.—LIST OF TREES, &c., WHICH HAVE BEEN OBSERVED AND NOTED AS OCCURRING.

	Botanical name.
Teak	Tectona grandis.
Pyinkado	Xylia dolabriformis.
Kôn-pyinma	Lagerstrœmia macrocarpa.
Pyinma	Lagerstrœmia flos reginæ.
In	Dipterocarpus tuberculatus.
Ingyin	Shorea siamensis.
Thiya	Shorea obtusa.
Cutch	Acacia catechu.
Kanyin	Dipterocarpus lævis.
Taukkyan	Terminalia tomentosa.
Yôn	Anogeissus acuminata.
Myaukchaw	Homalium tomentosum.
Zinbyun	Dillenia parviflora.
Seikchi	Briedelia retusa.
Petwun	Berrya amonilla.
Bambwè	Careya arborea.
Aukchinza	Diospyros ehretioides.
Gwè	Spondias mangifera.
Thitpôk	Dalbergia purpurea.
Thinwin	Millettia leucantha.
Didu	Bombax insigne.
Letpan	Bombax malabaricum.
Yindaik	Dalbergia cultrata.
Sawbya	
Tein	Nauclea parvifolia.
Teinkola	Nauclea sessilifolia.
Lein	Terminalia pyrifolia.
Leza	Lagerstrœmia tomentosa.
Thitsein	Terminalia belerica.
Dwani	Eriolæna candollei.
Thitpagan	Miliettia Brandissii.
Nabè	Odina Wodier.
Thandè	Stereospermum neuranthum.
Thapan	Ficus Chittagonga.
Dônshaw	Sterculia sp.
Myaukngo	Duabanga sonneratioides.
Chinyôk	Garuga pinnata.
Kyunnalin	Premna tomentosa.
Shawni	Sterculia villosa.
Shawbyu	Sterculia versicolor.
Shawa	Sterculia ornata.
Yekathit	Erythrina lithosperma.
Phanga	Terminalia tomentella.
Hmaik-a	Cordia sp.
Thitkya	
Taungpetwun	Pterospermum acerifolium.
Ma-ugaungdôn	Sarcocephalus cadamba.
Ma-ulettaushe	Sarcocephalus cordatus.
Binga	Nauclea rotundifolia.
Bèbya	Cratoxylon neriifolium.
Thingan	Hopea odorata.
Zaungbalè	
Myaya	Cordia sp.
Kanazo	Baccaurea sapida.
Nagyè	Pterospermum semisagittatum.
Myauklôk	Artocarpus Lakoocha.
Thitshwelwè	Schrebera swietenioides.
Hnaw	Nauclea cordifolia.
Hmanni	Gardenia erythroclada.
Kahaung	Strychnos nuxvomica.
Yômene	Gmelina arborea.
Tauksha	Vitex leucoxylon.
Hmaik-kyauk	
Kadut	Ficus hispida.
Thabyu	Dillenia Indica.
Byu	Dillenia pulcherrima.
Madama	Dalbergia glauca.
Thitcho	Sideroxylon tomentosum.
Dwabôk	Kydia calycina.
Petthan	Heterophragma adenophylla